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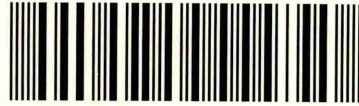
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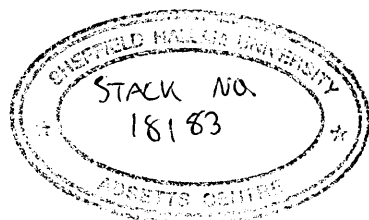
**MARKETING ORIENTATION: A COMPONENT  
ANALYSIS APPROACH TO FACILITIES  
MANAGEMENT**

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**A THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS OF  
SHEFFIELD HALLAM UNIVERSITY FOR THE DEGREE OF DOCTOR OF  
PHILOSOPHY**

**March 1999**





LEVEL 1

## DEDICATION

I hereby dedicate this work to my uncle NIBA PATRICK CHEO. Without him, I will not be here to even undertake the project. His steadfast support is the most important input that made this project possible. May God give him long life if nothing else. This dedication also goes to my mother MARY SIRRI for sacrificing most of her life for our well being. May almighty God give her a long life.

## ABSTRACT

The facilities management industry in the UK is relatively young but has experienced a rapid growth within the past two decades. This rapid development has increased the number of players in the industry and consequently, the need for greater market responsiveness. Despite this reality, an extensive literature search could not find any empirical study addressing the issue of marketing orientation in the industry.

It was the aim of this study to fill the above gap in the marketing literature. The study aimed to reconceptualise marketing orientation and broaden its dimensions in order to accommodate the paradoxes that are emerging as new contexts are focused. The boundary conditions for this reconceptualisation is a young industry such as Facilities Management, that lacks a well established industrial culture, is presently experiencing market turbulence and rapid growth, and operating within a period of intersection of the modern and postmodern cultures. The limits of present conceptualisation of marketing orientation as applicable to nascent industries are explored. Attempts to overcome these limits revealed a new conceptual framework for businesses trying to create and sustain a competitive advantage in the industry. The study also aimed to address implementation problems being faced in the industry by identifying useful antecedents that can enhance or impede the implementation process. The later part of the study was devoted to developing a benchmarking model that can be used by managers, to benchmark their organisations against the best practices in the field, in terms of marketing orientation.

The study depended heavily on a positivist paradigm, where the quantitative research approach was heavily used. In-depth interviews were conducted in the later part of the research to explore some of the issues arising from the quantitative approach. It is hoped that this methodological triangulation will correct some of the inherent flaws of one-sided methodological approaches. Various methodological issues affecting the study were considered and necessary action taken. These methodological issues include, self assessment, reverse score items, non response bias, scope of study, sample frame, reliability and validity issues, interviewer effect, and others. Mail survey was used to collect data for the quantitative aspect of the research and 107 responses were used in the analysis.

Being exploratory in design, the study sought to develop a scale that can adequately capture the operationalisation of the marketing concept within the facilities management industry. This was achieved by identifying aspects of marketing orientation that are not properly accommodated by the marketing literature, leading to the construction and validation of a new model of measurement. The scale development process provided empirical evidence that all components should be given equal weighting when

calculating the level of marketing orientation of an organisation. This confirms empirically what was previously assumed only from theoretical conceptualisation. Three new antecedents to marketing orientation were identified, namely; structural flux, employee flexibility, and teamwork orientation. The study established a higher level of marketing orientation pro-activity among firms with a formal customer service plan than those without. Paradoxically, the existence of a written customer service guideline was not found to have any significant impact on organisational marketing orientation stances. A benchmarking model that can be used by managers was developed and validated.

## **DECLARATION**

I hereby declare that this research has not been submitted in part or in whole in support of an application for another degree or qualification at Sheffield Hallam University or any other institution of learning.

## ACKNOWLEDGEMENT

The completion of this thesis has been made possible through the help of many individuals. I hereby express my gratitude to Professor Fari Akhalaghi for acting as the Director of Studies and for being instrumental in the award of the studentship by the University to undertake this research.

My sincere gratitude also goes to Dr Sonny Nwankwo for his devoted attention to the daily supervision of the work; reading, advising, and for providing general guidance during the course of this project.

My gratitude also goes to Professor Alan Griffiths, for his assistance as a member of the supervisory team, and to John Storr, for his help in aspects of methodology and model building. Although not one of the supervisors, John always found the time to discuss any issues in relation to the thesis in general.

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# CHAPTER ONE: GENERAL INTRODUCTION

## 1.0 Background to Research

After completing a BSc (Hons) degree programme in which the author was lucky to graduate as the best and only student with a second class upper degree in a class of over 35 students, he left academics and went to work in the field as a Building Economist. He returned to the academia, after being involved in the marketing of services in the facilities and construction industries for over half a decade. At the end of his MSc programme at Sheffield Hallam University, the author decided to research in the area of marketing because his experience in the field indicated that the training given to professionals in the built environment is generally lacking in this respect. It was hoped that the experience gained in the field would come to bear on the research.

Having made up his mind to research in marketing, it gradually dawned on him that this field of study is multifaceted. Consequently, he had to decide which area to research. The author was originally interested in postmodernism because it was presented as an emerging paradigm in marketing thought, and more so, it seemed new and intellectually stimulating. One of the author's main problems with postmodernism within the marketing subject area was the fact that he could not easily decipher the practical application of postmodernist views in the every day marketing activities of organisations. The more he read in the area, the more he realised to his disappointment, that most of what embeds the postmodernist paradigm, is not very new. Some of the main issues being raised have been known to exist in the physical world for some time. It is pertinent to review some of these issues because of the insight they offer in the conceptual development of this work.

One of the central themes of postmodernism is the acceptance of more than one reality (including simulated ones) as evidenced by its acknowledgement of hyper-reality. While prima-facie this seemed new, when looked at it in more detail, the author realised that this seems to be an acknowledgement of an

issue that is accepted and had been known to exist in the physical world for some time. The American scientist Richard Feynman's 'sum over history' approach to the universe stipulates that a particle does not have only one history in space-time but infinite histories with various probabilities. Some of the histories cancel each other while some re-inforce each other hence resulting in what we observe as reality. This 'sum of history' approach to reality seems analogous to the postmodernist view of more than one reality.

Another central theme of postmodernism is its greater acceptance of or resignation to a state of disorder and chaos (Brown 1993a, 1993b). With a closer look at this theme, the author realised that this seemed again to be similar to what is known and accepted in the physical world. According to Hawking (1988), scientific advancements in the physical sciences in the past three centuries led to a lot of enthusiasm and the belief that laws can be discovered to explain everything. This was pivotal in leading Laplace in the 19th century to postulate scientific determinism which states inter-alia that there is a set of laws that can determine the evolution of the universe completely, given its configuration at one point in time. This enthusiasm was dealt a mortal blow, and later discredited and abandoned, when in 1926 Werner Heisenberg formulated his famous Uncertainty Principle. This states that one cannot accurately measure the velocity and position of a particle at the same time. The more accurate you measure one, the less accurate you measure the other. The theory also states that the uncertainty in the velocity of a particle multiplied by the uncertainty in its position, multiplied by its mass cannot be less than a constant called the Plank Constant. This led to the realisation that in the whole universe, we are doomed to an inescapable element of uncertainty and lack of determinism. With this in mind, the emphasis and recent acceptance of, or resignation to, a state of disorder and chaos by postmodernists within the domain of marketing seemed to be simply stating in familiar language what is well established to exist in the universe as a whole.

Based on the above and other considerations, the author decided that postmodernism was neither directly applicable enough, nor was it new

enough, to interest him to pursue a PhD research in it. He finally decided to research in marketing orientation for although it was not new, it is directly applicable to the day to day activities of organisations.

### **1.1 Rationale of Study**

The marketing literature is inundated with articles explaining the need for marketing orientation, and in the recent years, it has been scarcely possible to read an annual report or to hear a management consultant speak, without encountering some variation of the expression “market oriented” (Harris 1996a). The acceptance of the marketing concept notwithstanding, its adoption within organisations has been generally problematic (Doyle 1998, Harris and Piercy 1997, Davison and McDonald 1995). Some practitioners remain wary of it as a complete theory capable of fostering a sustainable competitive advantage to the firm without help from other concepts. Largely, the problem stems from the lack of clarity in the literature in specifying, codifying, and measuring marketing orientation in its multifarious dimensions (Lado, Mayden-Olivares and Rivera 1998). In a way, this points at level of conceptual weakness which in turn, has tended to complicate its adoption and implementation (Nwankwo 1996). Against this background, the need for a research project on marketing orientation arises, in order to improve its codification and concomitantly, broaden and modernise its dimensions, to usefully apply to nascent industries such as Facilities Management which is experiencing great changes and market turbulence. The dawn of the postmodernist culture has also exacerbated the need for such a reconceptualisation, especially the improvement of marketing orientation measurement and codification.

There is now considerable evidence linking marketing orientation with performance (Narver and Slater 1990, Doyle and Wong 1998). Despite this, many organisations are either lacking in its implementation or not implemented it at all. The author believes that since the link between

marketing orientation and performance is established in the literature, the main reasons for this lack-lustre approach in organisations are twofold namely:

- (i) ignorance on the part of management as to the importance of being marketing oriented; and
- (ii) lack of supportive internal arrangements, i.e. structures and systems that are necessary to embed a marketing orientation.

This later difficulty manifests itself in implementation failures. It is considered in this study that the implementation process can be made less difficult if more internal antecedents to marketing orientation are identified. Managers may improve this implementation performance by, for example, decreasing the level of internal antecedents that are negatively related to marketing orientation. On the other hand, they can try to increase the level of internal antecedents that are positively related to marketing orientation. To do either of these, a thorough understanding of those antecedent variables, how they are bounded, and their underpinning conceptual premises is absolutely necessary. Consequently, another rationale of this study is to extend the pioneering work of Jaworski and Kohli (1993), by identifying more antecedents to marketing orientation which might be usefully applied to facilitate strategic adjustments in the Facilities Management industry.

In the UK's facilities management industry, there is at present no existing model which managers can apply to benchmark the relative position of their organisation in terms of marketing orientation. By using a model which could identify not only the level of marketing orientation, but also those aspects where the organisation is lagging, it will be possible to direct regional efforts towards a more productive and sustainable customer driven interaction. This study aims to develop such a model.

Grimm (1992) states that facilities management has been practised in numerous ways by various professions using an immense variety of definitions, aims, and objectives. It is only in the recent years that the level of activity, driven by ever-decreasing resources and ever-increasing demand for



quality by users, has brought a need for a fundamental review of the mission of facilities management. This has led to a plethora of definitions, missions, processes and tools being formulated by the industry, in order to achieve the necessary strategic adjustments. In such a scenario, there is the need for facilities management organisations to be more responsive to the market, and to be equipped to adequately satisfy the needs and wants of their customers. The unifying purpose of the present study is therefore one of helping to provide the needed framework and guidelines which will help organisations undertake the adjustments to customer responsiveness.

The Facilities Management industry in the UK has experienced a rapid growth in the last decade. This growth, can be traced to many factors, including the following:

- ◆ The increasing shedding of managerial responsibility for non-core functions by outsourcing appropriate expertise allowing businesses to focus on performing their core function in a more market responsive, flexible manner by focusing on the short term (Webb et al 1997).
- ◆ The inability of buildings to satisfy the fast changing end user wants and needs. Buildings needed to be managed to be capable of readily accommodating changes in the use of their constituent spaces (Webb et al 1997).
- ◆ Ever increasing need to adhere to European standards (Yisa 1995). This, coupled with greater automation of the work place, needs better management. This requires that facilities management organisations be involved in environmental scanning to factor in all issues that might affect the delivery of quality service within the existing legislative framework.
- ◆ The boom and bust of the past years requires greater adaptability and this has led to a lot of downsizing and outsourcing. In this scenario, the facilities management organisation must be sensitive to the changing and latent needs of their customers.
- ◆ The realisation by organisations that appropriate working environments can lead to higher staff morale and satisfaction, thus resulting to higher productivity. If the working environment is designed and managed in a

way that takes into consideration the needs of the end user, this can result to greater satisfaction of customers and hence repeat business.

- ♦ The change in working practices with organisations now using flexible working patterns including caves, commons, cottaging, guesting, hot desking, and just-in-time office (Stocks 1998). This requires more attention in the management of facilities to prevent wastage of resources.

By and large, all the above factors point to an operating environment that is becoming more dynamic and market-driven. The extraordinary drive to world's best practice in industry and cross-industry process terms has produced a decade of focus on delayering, outsourcing, business process re-engineering, financial re-engineering, and radical new structures for learning organisations (Edwards 1997). To survive and prosper in such an environment, organisations in the industry must adopt an appropriate response strategy. There is therefore the need to investigate marketing orientation within the facilities management context. The increasing market testing of activities that were previously undertaken in-house by various organisations exacerbates the need for this. Consequently, the development of a measurement scale capable of contextually capturing in an adequate manner, the operationalisation of the marketing concept provides a compelling need for this study. Increased outsourcing and marketing testing has exposed many facilities management departments for the first time to outside competition. It is therefore important to develop a model that these departments can use in the benchmarking of their marketing orientation activities. It is equally important to explore the role that competitor orientation at present plays in the industry. The general flux of the corporate world, and the increased activity in the industry in the past years, have created the need to investigate factors that can enhance or impede the implementation of marketing orientation i.e. antecedent variables. Positively and negatively related antecedents to marketing orientation can be manipulated, before, and/or during the implementation stage, so that the organisation is primed to respond and accordingly implement the values that the marketing concept espouses. If successfully implemented, organisations will be better placed to adequately satisfy the needs and wants of their

customers in the fast changing market place. It is a rationale of this study to identify new and useful antecedents to marketing orientation.

The overriding rationale to undertake this research within the domain of Facilities Management is that the industry is young and characterised by the following (Nutt 1999):

- ◆ it operates in an ever widening and ill defined sphere of activity;
- ◆ the claims that it makes for itself are mainly untested;
- ◆ it has few secure methods of its own to underpin good practice experience;
- ◆ it is not yet supported by an adequate knowledge base;
- ◆ it has yet to make its own distinctive contribution to the management discipline;
- ◆ its development to date has been unsupported by practical theory; and
- ◆ it is grossly under-researched.

These conditions point to an environment needing research in order to be equipped to deal with the fast changing corporate world, hence the need for the present study.

## **1.2 Scope of Research**

The scope of this research is limited to the UK facilities management industry. Facilities management units of corporate organisations (private, para-governmental) were included in the sample frame in order to increase the possibility of generalising any results obtained. The main point that seems to differentiate the industry from many other industries in the UK seem to be its relative youth, since the profession started in the UK only a few decades ago. By studying the industry, the research is addressing an industry in its early stage of development, where there have been very few studies in the past.

### **1.2.1 Chronological Scope of Research**

The data used in this study was mainly collected through a postal questionnaire. This was supplemented with in-depth interviews hence, the study can be considered a cross-sectional study as against a longitudinal study. Based on this, it can be said that the chronological scope of the study is a 'point in time'. Although the author accepts that a model developed with such cross-sectional data can become dated with the effluxion of time, it is hoped that such a model can be useful for a significant period of time.

### **1.3 Aims and Objectives of Research**

The study has as one of its aims to develop a scale that adequately captures the operationalisation of the marketing concept in the facilities management industry. It also aims to identify new antecedents to marketing orientation, to empirically test if the presently used method of calculating marketing orientation is robust enough to be useful to the context of this study. Another aim is to develop a model that can be used by facilities managers for benchmarking purposes, that is, the marketing orientation position of their organisations relative to others in the industry. In order to accomplish the above aims, the following objectives were set for the study:

- ◆ to develop and test a scale to measure marketing orientation within the facilities management industry;
- ◆ to investigate the weighting of the components, when calculating the level of marketing orientation of organisations;
- ◆ to extend the pioneering work of Jaworski and Kohli (1993) by identify more antecedents to marketing orientation; and
- ◆ to develop an arachnoidal non generic benchmarking model that can be used by facilities managers to benchmark their relative marketing orientation positions.

## 1.4 Research Findings

The findings of the research can be categorised into two groups, namely:

1. the confirmation in Facilities Management of results previously obtained in other industries; and
2. investigation of issues that are new or not yet adequately settled in the marketing literature.

The findings within the first category include the confirmation of a positive relationship between marketing orientation and various measures of performance as found in other industries (Doyle and Wong 1998, Caruana et al 1995, Greenley 1995, Narver and Slater 1990).

The significant findings within the second category include inter-alia the following:

1) The development of new marketing orientation scale:

- ◆ developing a new scale that can capture the operationalisation of the marketing concept within the facilities management industry;
- ◆ identifying two new marketing orientation components namely Value-added orientation and Business Maintenance;
- ◆ showing that competitor orientation is not presently a significant factor in the marketing orientation stances of organisations in the facilities management industry; and
- ◆ establishing empirically that the components of marketing orientation should be given equal weighting when calculating its value, hence confirming with empirical evidence what had been deduced from theory but not empirically tested.

2) Antecedents to marketing orientation:

- ◆ Identifying 3 new internal antecedents to marketing orientation namely:
  - a) structural flux;
  - b) employee flexibility; and
  - c) teamwork orientation.

- ◆ Identification of the different forms of marketing orientation in the facilities management industry and the factors that differentiate between them.

### 3) Modelling:

- ◆ developing and validating an arachnoidal non generic benchmarking model that can be used by managers in the facilities management industry to benchmark the level of marketing orientation of their organisation or firm.

## 1.5 Overview of Thesis

The thesis was arranged in such a manner that each chapter can be read independently, although still maintaining connectivity between the chapters. The chapters were structured to enable research papers to be written from reading individual chapters even without having to read the whole thesis. The longest chapter is chapter six, which deals with antecedents to marketing orientation, and other factors that might affect its implementation.

The chapters in chronological order are as follows:

1. General Introduction
2. Research Methodology
3. Introduction to the Facilities Management Industry
4. Introduction to Marketing orientation
5. Marketing orientation Scale Development
6. Antecedents to Marketing orientation
7. Model Development and Validation
8. Conclusion

An overview of the various chapters is as follows:

### **1.5.1 Chapter One**

This chapter is a general introduction to the thesis and deals with the rationale for undertaking a research in marketing orientation within the context of the facilities management industry. It provides the aims and objectives of the study, and highlights the results obtained.

### **1.5.2 Chapter Two**

Methodological issues affecting the research are dealt with in detail here. The various types of research methodologies that were used in the research, their advantages and disadvantages are considered. Methodological approaches used were the positivist survey-based approach and an interpretative in-depth interview-based approach. Within the in-depth interview approach, the chapter looks at the relative merits of using overt observation or non-observation in interviews, and gives the reasons for the approach adopted.

In an exploratory research like this one, it is possible to investigate the performance of organisations by using objective measures, or subjective self-assessment of performance. The chapter considers both approaches and gives the reasons for adopting subjective self-assessment. The chapter also addresses other methodological issues such as the response rate. The possibilities for increasing the response rate are considered, and reasons for adopting or rejecting certain approaches, and also issues of non-response bias are discussed. The questionnaire design is also dealt with in this chapter where the issue of reverse score items is considered and the approach used in questionnaire pretesting is thoroughly analysed. Validity and reliability issues are also addressed.

### **1.5.3 Chapter 3**

Facilities Management as an emerging industry is introduced in this chapter. This starts by defining facilities management, and goes on to trace the development of the industry in the UK over the years. The future direction of industry in the UK is also analysed. An exposition on the identity of the facilities management industry in the face of encroachment from other sister professions is examined.

Topical issues that affect the industry such as the Transfer of Undertakings Policy (TUPE) and other issues are examined. The major clients of the industry are discussed and the way their activities affect the industry was examined. The clients discussed in this chapter include central government, corporate or private clients, local governments and the NHS. The chapter ends by introducing the marketing of facilities management services.

### **1.5.4 Chapter Four**

Marketing orientation is introduced in this chapter. This starts by defining marketing orientation, and tracing other definitions of marketing orientation by practitioners and academics in the past. The chapter reviews the historical perspective of the operationalisation of the marketing concept and traces how marketing orientation has been viewed over the years. The idea was to highlight the major flaws in the present conceptualisation of marketing orientation and use this as a basis to reconceptualise.

The chapter reviews the linkage between internal marketing and marketing orientation. It goes further to extend the discussion on the components of marketing orientation and developed hypotheses in this regard.

Postmodernism and its linkage with marketing orientation is explored. The chapter ends with a discussion on the relationship between marketing



orientation and entrepreneurial orientation. Entrepreneurial orientation is defined and the chapter traces attempts at its measurement. Its theoretical relationship with marketing orientation is established and a hypothesis on the relationship within the facilities management industry is formulated.

### **1.5.5 Chapter Five**

Here, the focus is on the development of a marketing orientation scale, and the testing of the hypotheses developed in the previous chapter. This starts by reviewing the major scale developments of the marketing orientation construct in the past, before embarking on the scale development exercise. The reliability of the various measurements to be used in the scale development exercise is investigated to make sure that all measures used are reasonably reliable.

A marketing orientation scale is developed using techniques such as correlation and factor analysis. Using these same techniques, the hypotheses developed in the previous chapter are analysed. Conclusions are arrived at in terms of the components and mode of calculating marketing orientation. The relationship between marketing orientation and entrepreneurial orientation within the facilities management industry is analysed. Some of the findings in this chapter are counter checked using in-depth interviews.

### **1.5.6 Chapter Six**

Antecedents to marketing orientation are dealt with in this chapter by examining the espoused steps to a marketing orientation. Identified internal antecedents such as top management involvement, formalisation, centralisation, reward orientation, interdepartmental conflict, interdepartmental connectedness, and departmental specialisation, are discussed. Three new internal antecedents were proposed and hypotheses developed about their relationships with marketing orientation which are later tested using regression analysis techniques.

## CHAPTER TWO: RESEARCH METHODOLOGY

### 2.1 Introduction

The study adopted a methodological triangulation involving a quantitative and an interpretative approach. However, the bulk of the work was done using the quantitative approach where hypothesis were developed and tested. In-depth interviews were later conducted to investigate salient points arising from the positivist scale development exercise and the model development process. Moreover, the qualitative approach helped to provide a contextual embodiment within the facilities management industry.

Marketing research is concerned with the collection, analysis, interpretation and use of data and the researcher using quantitative research is often concerned with how many people think and act in particular ways. It is advantageous for the quantitative researcher to include a qualitative aspect in the research in order to explore why people think or behave in different ways. Quantitative data normally indicate only what occurred and fails to tap into the more emotional and subjective side of the respondents (Will et al 1996).

Quantitative researchers are usually tempted to be preoccupied with statistical analysis to the detriment of quality data production. This approach tends to force researchers to work within theory, rather than challenge or extend it (Jarratt 1996). On the other hand, quantitative research is held to be conceived in analytic purity in the high citadels of academe. Other approaches, like the interpretative approach, are considered to be midwived by expediency in the dark corners of the researcher's lair and hence, generally accorded lower status (Glover 1977). Combining these two approaches might help to compensate for the shortcomings of each on a stand-alone basis.

The high degree of structure in questionnaires used in the quantitative approach can lead to a relative lack of naturalism, hence the need to

complement the research with an interpretative approach such as interviews. It was realised that using a structured questionnaire can restrict respondents to mark or tick answers that fit the conceptual and theoretical pro-forma of the research. This might not give them ample opportunity to articulate their personal understanding or conceptualisation of the issues being studied, hence decreasing the ecological validity of the entire study. The in-depth interviews in this research were to give at least some respondents the opportunity to articulate such conceptualisations.

Pluralism in data collection was important because indications are that not only are different ideographic and nomothetic methodologies suitable for different situations and problems in such research, they also complement one another in a variety of ways. It can increase the credibility of the research by providing an internal cross-checking or monitoring device during the research project (Smith 1975, Denzin 1970).

Methodological triangulation permitted the research to focus on a macro and micro level. The quantitative approach focused on the macro, while the qualitative approach focused on the micro. The macro level constituted the bulk of the research, and involved the analysis of data collected from a cross-section of the facilities management industry. It is hoped that conclusions reached from the macro level of the research will be easily generalisable, since the sample frame cuts across a broad spectrum of the industry. On the micro level, in-depth interviews were conducted with managers of a few selected firms. The micro aspect focused on getting into contextual and operational details concerning marketing orientation that could not be easily got from the macro investigation.

The main differences between quantitative and qualitative research methodologies can be summarised as below (table 2.1):

**Table 2.1 Differences between Quantitative and Qualitative Research Methodologies**

<b>Dimension</b>	<b>Quantitative Paradigm</b>	<b>Qualitative Paradigm</b>
Purpose	Prediction and control	Understanding
Reliability	Stable-reality is made up of facts that do not change	Dynamic-reality changes with changes in people's perceptions
Viewpoint	Outsider-reality is what quantifiable data indicate it to be	Insider-reality is what people perceive it to be
Values	Value free-values can be controlled	Value bound-values will impact on understanding the phenomenon
Focus	Particularistic-defined by variables studied	Holistic
Orientation	Verification	Discovery
Data	Objective	Subjective
Instrumentation	Non-human	Human
Conditions	Controlled	Naturalistic
Results	Reliable	Valid: the focus is on design and procedures to gain real, rich and deep data

Source: Jarratt (1996)

The combination of methods from both qualitative and quantitative paradigms comes with the possibility of bringing measurement theory into qualitative research, as suggested by Churchill (1979). He conceptualised that each observation is can be represented as follows:

$$X_o = X_t + X_s + X_r$$

where

$X_o$  is the observation

$X_t$  is the true phenomenon-taking place

$X_s$  is an element of systematic error

$X_r$  is an element of random error.

If the above conceptualisation is true, it casts doubt on qualitative research methodology, since systematic and random errors can easily go undetected and conclusions are easily drawn without any indication of the confidence interval of the conclusions. The need for qualitative research to be mixed with some elements of quantitative research is also necessitated by the fact that in qualitative research methods, such as participant observation, it is impossible on a practical level to separate the gathering of data from their interpretation. The danger of bias is always present and thus without proper checks using different methodological approaches, qualitative approach alone can lead to a situation where reliability is weak, and generally sacrificed as a trade-off for the richness of the data collected (Stafford and Stafford 1993).

The combination of research methodologies can take many forms, including

- ◆ 'within method approach': this involves the use of a variety of techniques within a stated method to gather information about an aspect of the research; and
- ◆ 'between methods approach': this involves a combination of different approaches to provide cross validation of outcomes.

This study adopted the 'between methods' approach because of the possibility of cross validation of outcomes in the approach. A discussion of both approaches adopted in this triangulation is important to expose the shortcomings of each and steps taken to address them.

## 2.2 Qualitative (Interpretative) Approach

Historically, qualitative research has been given less than a fair sense of appreciation and has been criticised for lack of scientific rigour, small samples, subjective and non-replicable efforts (Goodyear 1990). Qualitative data consist of detailed descriptions of events, situations and interactions between people and things providing depth and detail. Such data is symbolic, contextually embedded, cryptic, and reflexive (Patton 1980). Sykes (1991) states that qualitative research samples are purposive non probability samples selected in such a way as to increase the chances of covering the range of issues, phenomenon, types of individuals and so on, that are of interest. Qualitative research focuses on the unfolding of the process rather than social structures that are often the focus of quantitative researchers. Some of the most commonly used qualitative methods include focus group discussions, observations, conversational analysis, content analysis and in-depth interviews. The use of one or more of these different methods or a combination of a number of these will allow data to be collected on verbal occurrences, visually recorded occurrences, written reports and documentation, within a specific context (Gilmore and Carson 1996). Amongst the above interpretative approaches, the in-depth interview approach was used because of its simplicity and the fact it gives an opportunity for the interviewees to express their opinion on salient points.

Although hypothesis testing, model building, and scale development were largely guided by the quantitative approach, certain issues were highlighted at different stages that necessitated the use of an interpretative approach. In-depth interviews were used to investigate the why and how of these issues. The adaptability and flexibility of the interviews and their open-ended and non-pre-ordained nature were particularly useful in this respect. The interviews assisted in the understanding of the context in which facilities management organisations have/are/should develop a marketing orientation. In research

design, in-depth interview techniques are generally believed to be capable of taking account of what is learnt throughout the research process as well as research outcomes and results. Equally important is the inherent ability to focus on the unfolding of the process rather than the existing framework or structure as is the case in the quantitative aspect of the research (Gilmore and Carson 1996). A typical example is the identification of a new component of marketing orientation. While the quantitative approach is useful in its identification, the *modus operandi* to institute such a new component could only be captured by using a qualitative approach. The interviews also gave the author the opportunity to gain a comprehensive and complete picture of the whole context in which the implementation of the marketing concept takes place.

Interviews were conducted with six facilities managers. The choice of the interviewees and the number of interviews were based on the discretion of the author. Nevertheless, accessibility to the organisation, and proximity were factors considered in the choice of the interviewees. It was decided to conduct six interviews because of the realisation that within that number, the major sections of the industry could be included. The interview sample was selected to include a regional firm, a national firm, a firm biased towards the property side, a firm biased towards the cleaning side, and a firm biased towards the reprographic side of facilities management. The facilities management unit of a major institution was also included in the sample. The interviews concentrated mainly on investigating issues concerning the components of marketing orientation and the model building exercise. Reasons why some possible components did not qualify were investigated. For the hypothesised components that qualified, the approaches used by organisations to institute the components were investigated. The actual questions asked, and a verbatim quote of the answers given, are provided later in various sections of the work.

Despite the attempts to include major sections of the industry in the interview sample, it must be stressed that the interview approach used a non

probabilistic and non statistical sample. Due to the limited sample size, and the limited geographical coverage of the sample, the interviews should be considered in conjunction with the findings from the quantitative analysis. For interviews to be capable of being self-contained and stand on their own, more than the six respondents might be necessary. For interviews, a sample of 30 has a 99% probability of including a 14% minority, and a 95% probability of including a minority of 10%. The probability of including a 5% minority is under 80%. As samples are reduced further, the effect becomes even more dramatic. At 25, the probability of not identifying the 5% minority rises to 28% (more than one-in-four) (Martin Collins quoted by Sykes 1991).

Interviews can be designed in various ways, with different degrees of structure on a continuum where they may be totally unstructured at one end and fully structured on the other end. The semi-structured process was adopted where pre-designed questions were prepared but with digressions into certain areas as deemed fit during the interviewing process. Nevertheless, the interviewer generally did not always allow respondents to expand as much as they wanted on a particular topic. Rather, they were tailored in order to maintain focus on certain important issues since the interviews were undertaken after the survey and analysis of data from the postal questionnaires. The aim of the interviews was to investigate the context of issues arising from the quantitative aspects of the study, hence the interviews had to be structured to fit this purpose. A typical example is the questioning of the directors concerning the level of competitor orientation in their firm and why there is a significant difference in the level of customer orientation and competitor orientation in the firm, if any. The rationale for this line of questioning is that, in the quantitative aspect of the research, it was realised that competitor orientation is not very important in the marketing orientation stances of organisations in the facilities management industry.



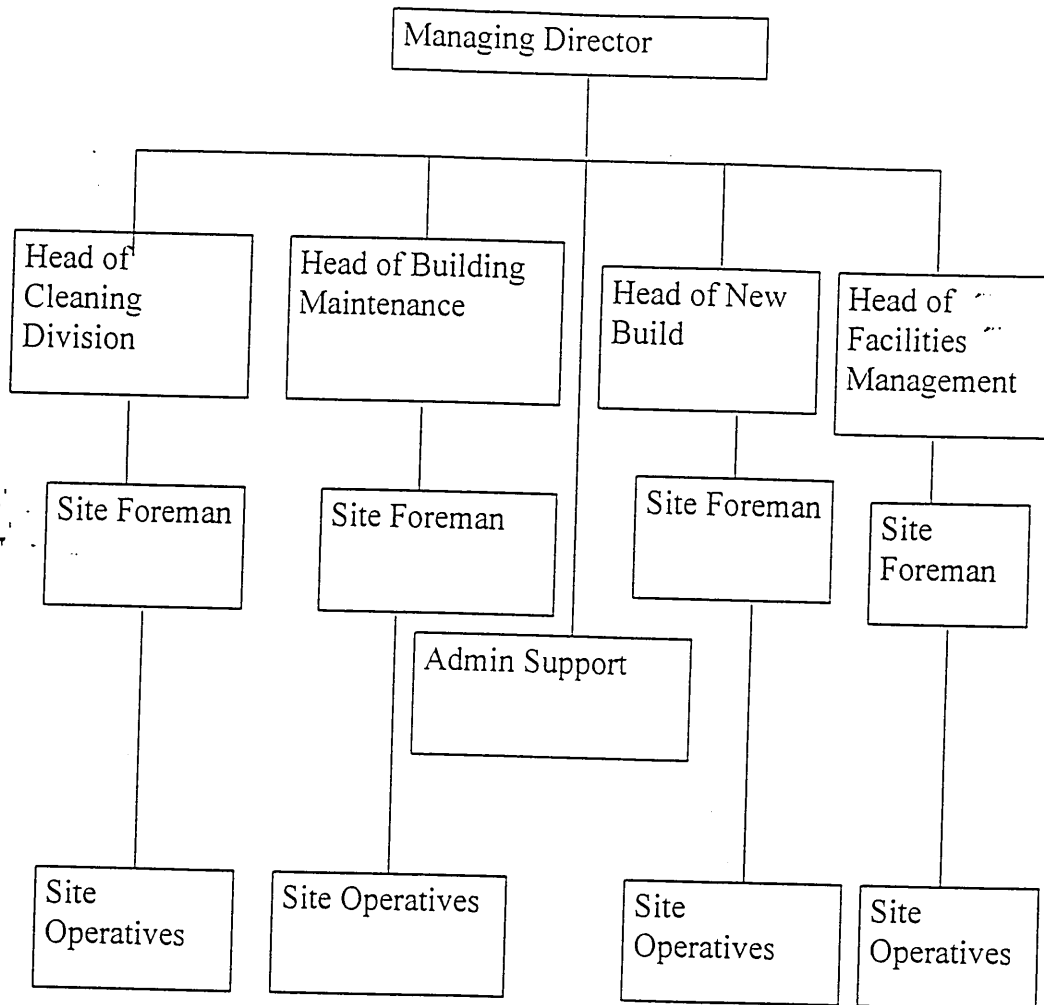
### 2.2.1 Brief Description of Organisations in Interview Sample

In this section, an attempt will be made to give a brief description of the organisations in the interview sample. For reasons of confidentiality, the actual names of the organisations will not be given. The organisations are coded 'Company A', to 'Company F'. The interviews targeted senior staff of the organisations. Interviews were conducted with Directors or Associate Directors. The interview with the unit of a major institution was conducted with a senior member of staff. The interviews were organisational specific; although responses were obtained from Directors. The rationale for this is that the Directors are the ones to emphasis and instil a marketing orientation culture in the organisation. They are also capable of forming a true and holistic view of the organisation and not just one function, or department.

Company A is a regional small firm specialising in the provision of non core services to clients such as cleaning services, management of facilities, and refurbishment of buildings. It was created about 15 years ago and now consists of different groups specialising in different aspects of facilities management. The company specialises in daily cleaning, factory cleaning, kitchen cleaning, floor stripping and re-sealing, scarifying and de-greasing of floors, specialist computer cleaning, general renovation, and the management of facilities.

The company employs over 200 employees and has an annual turn over in the region of 8 million pounds. The organisational structure of the company is as represented below (figure 2.1):

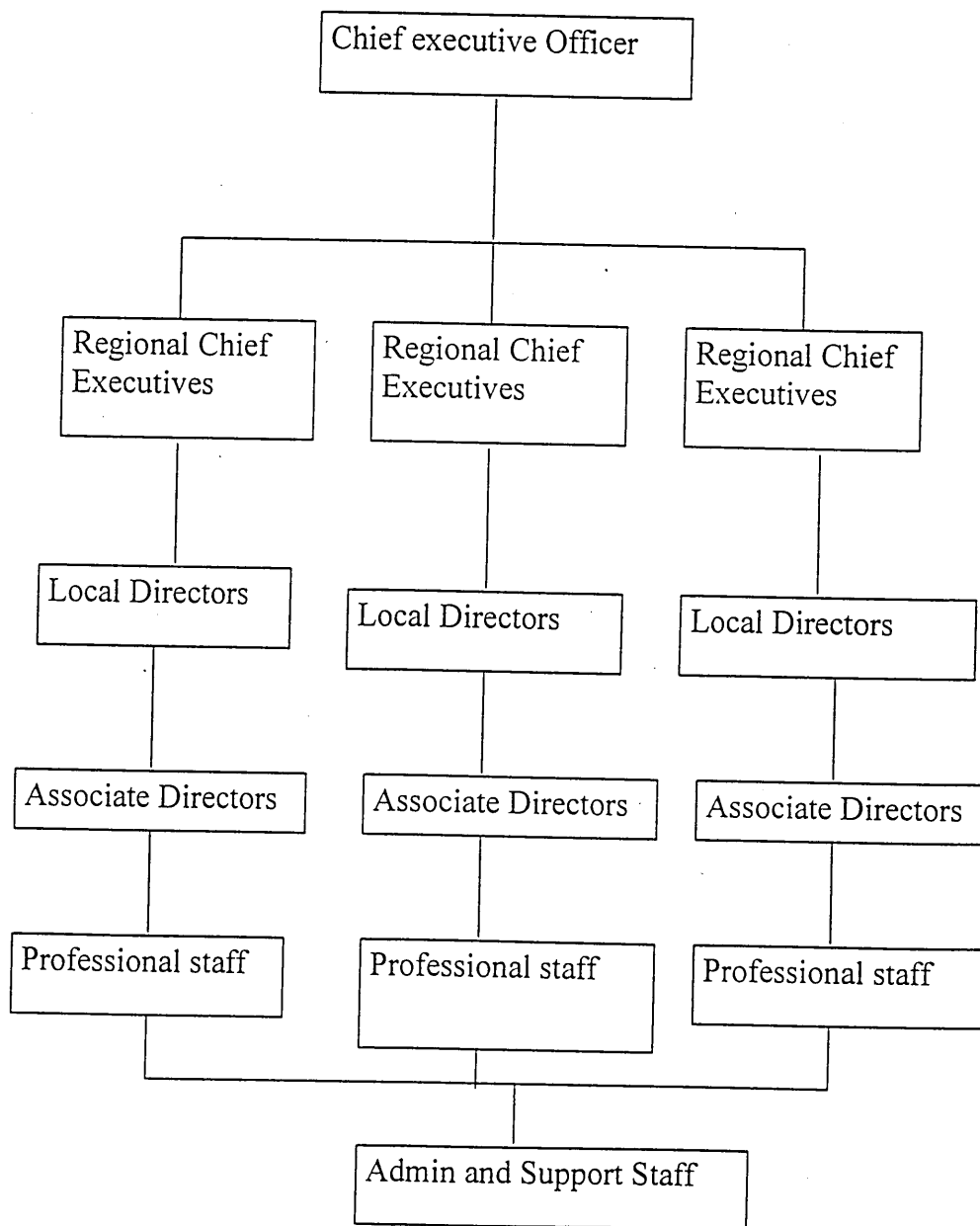
**Figure 2.1: Organisational Structure of Company A**



Company B is a national and regional consultancy created in 1980 and involved in facilities management and the provision of surveying services. The firm is one of the biggest within the property industry in the country and is rated within the first ten largest consultancies in this sector within the country. It is quoted on the London stock exchange, employs more than 1000 employees, and had a 1998 annual turnover of forty two million pounds with profit of between 3 to 4 million pounds. The firm has been experiencing growth in market share and profits. In 1997, the firm had a turnover of thirty eight million pounds and a pre-tax profit of one to two millions hence showing that there has been significant growth in turn over and profits over the last year.

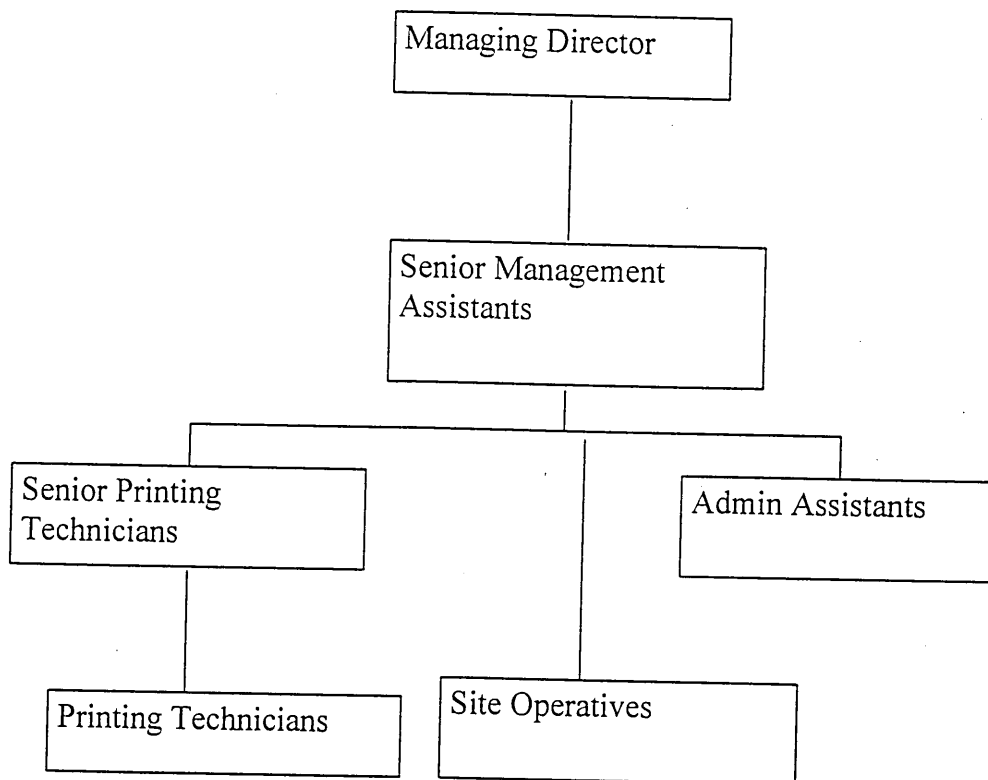
It has a main office in London but the operational managers and directors are located within the various offices in London and in the regions. The organisation is headed by a chief executive officer (CEO) to whom regional chief executives report. The organisational structure is as shown below (figure 2.2):

**Figure 2.2: Organisational Structure of Company B**



Company C is a local firm involved in non core services in buildings such as the cleaning of facilities, reprographics, printing, and photocopying. It has a small staff made up of the managing director, senior management assistants, clerical, and technical staff working in the print rooms and other technical duties. The company has been existing for 20 years under the same management and has an annual turnover of less than three hundred thousand pounds. The organisational structure of the company is as shown below (figure 2.3)

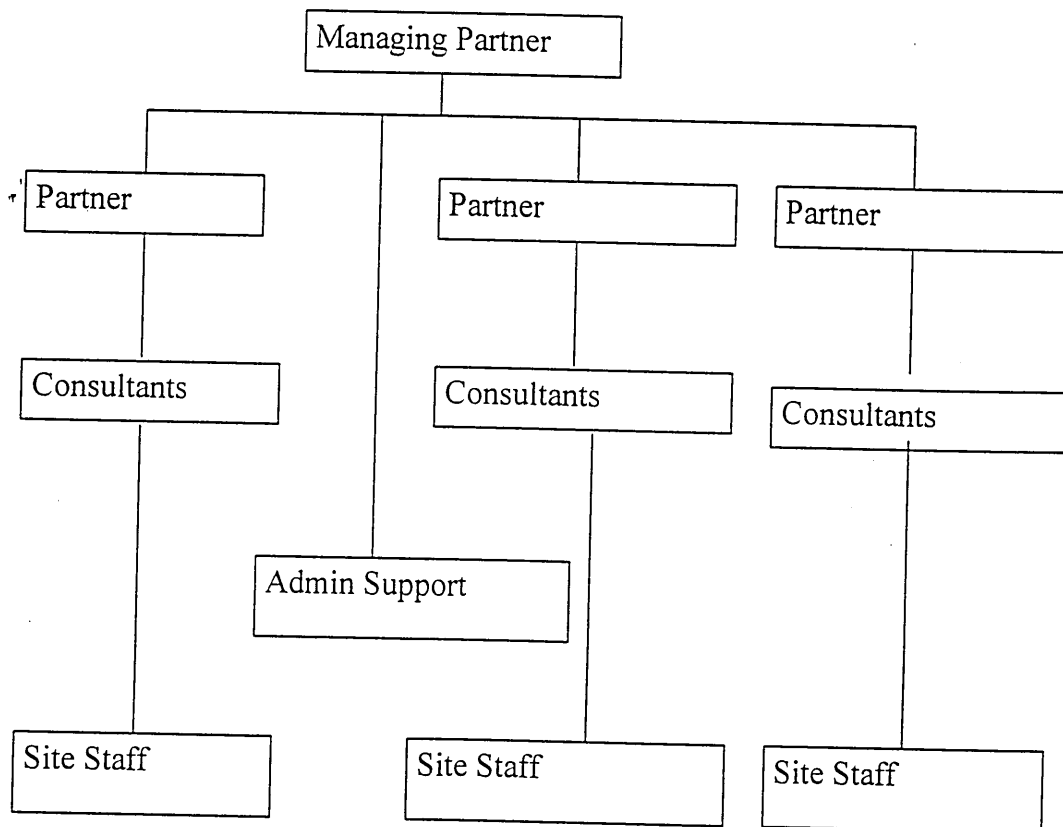
**Figure 2.3: Organisational Structure of Company C**



Company D is a national consultancy created five years ago specialising in advising companies in the management of their facilities and systems, so that they are of the standard required by the national and international quality accreditation bodies. It has an annual turnover of over half a million pounds.

The company comprises of consultants who are partners or senior staff, and other staff both clerical and technical who assist the partners and senior staff in the execution of the request from customers. The organisational structure of company D is as follows (figure 2.4)

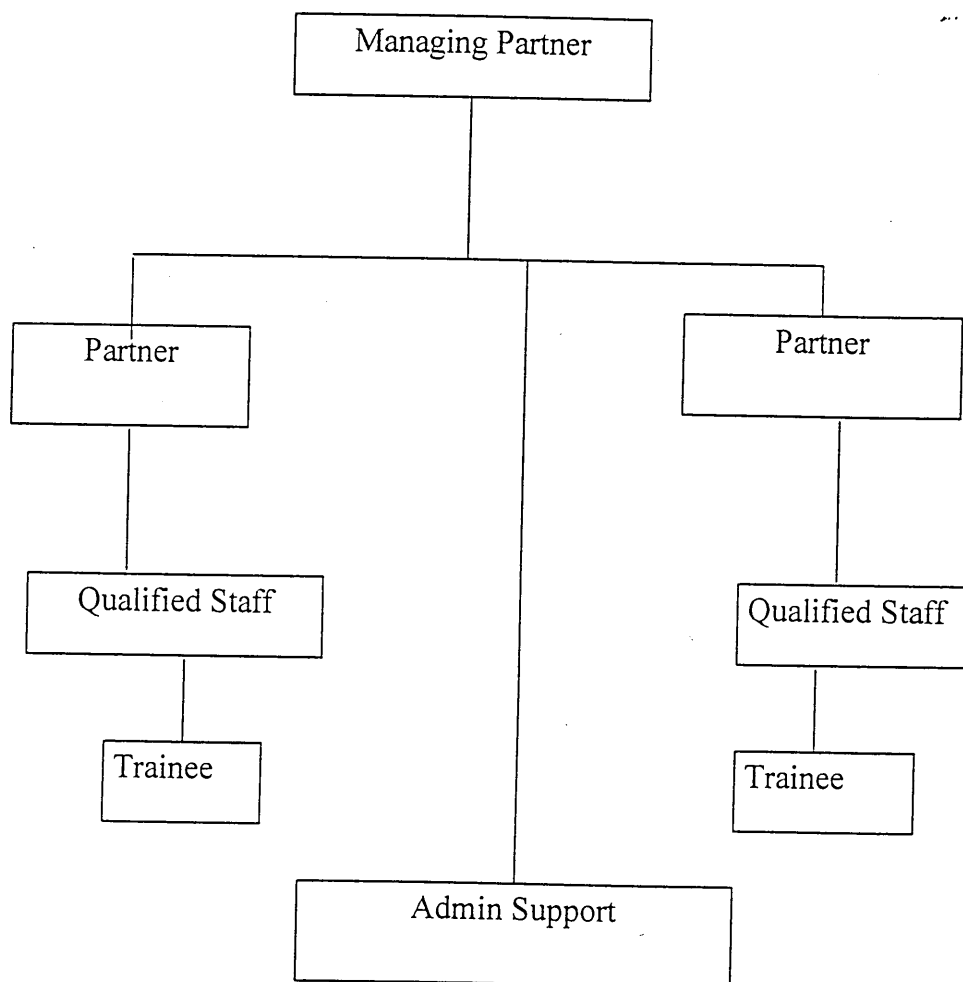
**Figure 2.4: Organisational Structure of Company D**



Company E is a regional consultancy created 10 years ago. It operates throughout the North of England and the Midlands. The clients of the firm include private development companies, central and local government departments and public authorities. The firm is a fairly small firm with a turnover of about three hundred thousand pounds. Its marketing policy has been specifically targeted over the years at sustaining the existing client base and not at growth. This has resulted in stunted growth over the years although the actual market share is not known.

Although being founded at the beginning of 1990, the organisation is still made up of the three founding partners and only 10 full time staff. The organisational structure is as shown below (figure 2.5)

**Figure 2.5: Organisation Structure of Company E**

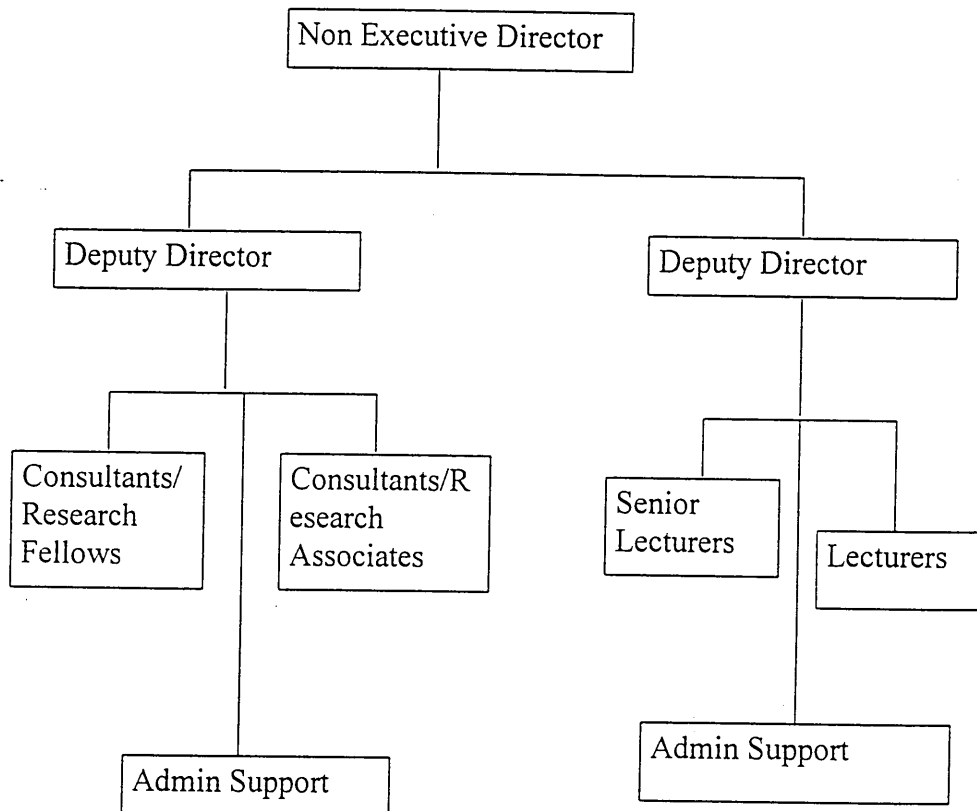


Company F is the facilities management unit of a large organisation specialising in facilities management consultancy, research and teaching. The unit has been in existence for less than a decade but in terms of facilities management consultancy, counts amongst its clients many organisations including more than 20 NHS trusts, The Royal Mail, various institutions of higher education, and various private and government organisations. The

annual turnover of the unit is in excess of half a million pounds. The precise market share of the unit is not known but it is known to be growing.

The organisation has some part-time staff and about ten full time staff, including a director, two deputy directors, researchers, consultancy and teaching staff. A schematic representation of the unit is as follows (figure 2.6)

**Figure 2.6: Organisational Structure of Company F**



With the heterogeneous nature of the interview sample, there is the potential for interviewer effect to affect the study.

### 2.2.2 Interviewer Effect

It has long been recognised that the possibility exists for two interviewers, asking the same question of the same respondent, to obtain different answers. This is known as the 'interviewer effect' (Collins 1997). Due to differences in

handling the interview, such as the way of asking questions, the way of recording the answers, the nature of interaction with the respondent, different interviewers might often get different answers. Items that can be subject to interviewer effect includes both factual and attitudinal items. High interviewer effects (of 0.05 or more) can be as common among factual as among attitudinal items, arising more from the 'mechanics' of the interview than from the subject matter of a particular question (Collins 1997). Notwithstanding the importance of considering interviewer effect in a study such as this project, empirical studies seem to suggest that the proportion of the total variance of a survey variable accounted for by interviewer effect is small. For example, Kish (1962) while investigating the interviewer effect, reported estimates of p-values up to 0.07 and calculated p-values from studies of other researchers ranging from 0 to 0.1 with most of the values congregating towards the lower end of the range. In order to minimise the interviewer effect, an attempt was made to standardise the interview process. The same issues were probed in depth with the various respondents and emphasis was put in the same areas of questioning. An attempt was also made to standardise the interaction with all the interviewees.

Interviews were conducted generally by face to face contact. The overt participant observation in interview meetings is subject to the problem of 'reactivity' or participants' reactions to the knowledge that they are being observed. The presence of such reactions may render the obtained results unrepresentative of the natural situation in which the investigator is ultimately interested and any such situation may be referred to as a reactive arrangement (Neale and Liebert 1980). Such reaction can lead to bias and this bias corresponds to the systematic error identified in Churchill's 1979 model of the components of observation. In order to minimise this effect, the respondents were generally made to feel at ease with a promise that the taped interview will not be identified with their organisation directly.



After accounting for interviewer effect and other validity issues, the interviews were judged to be successful in achieving their aims. The interview outcomes will be discussed in the respective chapters where the issue to be investigated arises.

## **2.3 Positivist (Quantitative) Approach**

This study depended heavily on the quantitative approach in arriving at conclusions. It was realised that the quantitative approach involving questionnaire surveys has the capability of dealing with the, who, what, where and how much aspects of research. Nevertheless, it has a limited ability to deal with the context within which issues are being observed. It also limits the flexibility of the researcher, since the number of questions and variables on which data is being collected via a questionnaire has to be limited to a manageable size. In questionnaire surveys, the data collection format has to be established at the beginning of the data collection process and a major deviation from the original design during the process might necessitate a total redesign of the questionnaire. The researcher must know exactly the nature of data that is to be collected and the format of analyses right at the start of the data collection process. This leaves little allowance for changes. Despite these limitations, the positivist approach can be very helpful in marketing research if the methodological issues affecting it are properly analysed and taken care of. The methodological issues affecting the quantitative approach are discussed below.

### **2.3.1 Sampling Frame**

At the start of this research, the author was faced with two choices in terms of the sample frame as follows:

- ◆ to investigate the top companies within the industry; and
- ◆ to use a sample frame consisting of large, medium and small companies.

The advantage of using the first sampling frame is its ease of management, time and cost effectiveness, and the fact that the major companies are more likely to have well informed staff who can provide reasonable answers. The major companies might also have well demarcated functions, departments, and lines of communication that are easy to investigate. Another rationale for using a sample frame consisting of the top companies only is that, if put together, they cover a great section of the market share, and their decisions and actions have greater impact on the market.

The second sampling frame consisting of consultant firms, contracting organisations, and facilities management units of major organisations was adopted for reasons explained below. The addresses of most of the organisations were obtained from the Facilities Management Year Book, while others, such as the facilities management units of major corporations were obtained from personal knowledge and existing data bases available in the public domain. The use of the Facilities Management Year Book as the main source of organisations in the sample frame was considered appropriate because it results in 'simple random sample' with less possibility for bias. The variability in the size of the companies and their geographical location has the advantage that any results obtained from such a data set can be generalisable across the whole industry. The main weakness of such a sample frame is that the analysis stage might be susceptible to noise emanating from the heterogeneity of the sample frame in terms of geographical location and size. The fact that all the organisations in the sample frame are within the facilities management industry means they experience the same industrial conditions and trends, hence the effect of noise in the analysis will be very much minimised. The study targeted directors and chief executives (CEOs) since they are the ones that must establish clear values and beliefs about serving the customer (Webster 1988). They must also emphasise the importance of marketing orientation to the organisation.

At the end the later approach was chosen for reasons explained above, and questionnaires sent to 725 firms comprising small, medium, and large firms. The choice of the figure of 725 questionnaires was greatly influenced by the fact that a minimum response rate of about 12% to 20% was anticipated. It was envisaged that around 100 usable responses would be sufficient to carry out the investigation, and produce statistically significant results. The representativeness of the sample was ensured by including various sections of the facilities management industry in the sample, and by checking for non response bias, as explained later.

### **2.3.2 Questionnaire Design**

Great care and diligence was necessary in the design of the questionnaire. Unlike interviews, respondents to questionnaires generally are not selected on their ability to properly complete the questionnaire, nor do they have the opportunity of a trial run or training. Previous work in the area of marketing orientation was useful in the development of scale items in the questionnaire (Narver and Slater 1990, Kohli and Jaworski 1990, Jaworski and Kohli 1993, Greenley 1995). Completely new questions were formulated where new issues were investigated.

Broadly, the questionnaire comprises three main categories as follows:

- ◆ information on the general characteristics of the various organisations within the sample frame, for example, age, size, and so on;
- ◆ scale items to measure the marketing orientation construct. Since this study offers a reconceptualisation of marketing orientation, new scale items were developed, for example, to capture value-added orientation, which is hypothesised to be a behavioural component of marketing orientation; and
- ◆ questions to measure the hypothesised antecedents to marketing orientation and organisational performance.

All the questions with the exception of those in the first section were arranged on a five point Likert scale. Respondents had to decide the extent to which a statement describes their organisation and insert the corresponding rating. Before the final version of the questionnaires was sent out, they were pretested.

### **2.3.3 Pretesting of Questionnaire**

There is wide consensus in the marketing literature that pretesting is an integral part of the questionnaire development process (Reynolds and Diamantopoulos 1998). Pretesting or piloting of the questionnaire was undertaken to:

- ◆ determine the potential effectiveness of the questionnaire;
- ◆ refine the questionnaire design and identify errors, such as, specific word meanings, which may only be apparent to the target population; and
- ◆ allow the pretesting to act, if possible, as a dry run of the entire research process in the same way as test marketing does in new product development (Churchill 1991, Hunt, Sparkman and Wilcox 1982 ).

Pretesting might affect a research project if the sample is too small. This might necessitate further elimination of some members of an already small population. In this research, this particular consideration was not of paramount importance because of a large sample frame of 725 firms. Any firm or individual used in the pretest could be easily eliminated from the sample frame without any adverse effect. Pretesting also helped to address other important issues, which if not carefully considered could adversely affect the research outcome. Some of these issues are: Reynolds et al (1993)

- ◆ double questions;
- ◆ ambiguous questions;
- ◆ ambiguous word meanings;
- ◆ loading or leading questions or phrases;
- ◆ level of question difficulty;

- ◆ lop-sided response categories;
- ◆ missing questions;
- ◆ necessity and relevance of individual questions;
- ◆ discriminating questions (between certain groups within the target group);
- ◆ non-response rates;
- ◆ effect of ordinal position of multiple responses;
- ◆ perceptions of pictures; and
- ◆ degree of attention.

The preliminary pretesting was undertaken using an interview approach. The later pretests were undertaken without any face to face contact. This approach is in consonance with recommendations from the marketing literature (Peterson 1988, Boyd et al 1989). Pretests are best done by personal interviews, but if the final questionnaire is to be administered by any other means other than interviews (mail questionnaires in this case), then the final pretest should be undertaken using the later method (Peterson 1988, Boyd et al 1989).

The pretest sample consisted of five senior academics/researchers and five managers covering different subgroups of the industry. The choice of the pretest sample was to make sure that it is as similar to the final sample as possible. Academics were included in the pretest sample because it was assumed that they will be more likely to spot technical faults, such as double questions, leading questions or lop-sided response categories, unlike the managers in the industry who might be more concerned with understanding the questions (Reynolds et al 1993). The pretests helped in the production of a final version of the questionnaire that managers could easily understand. The questions for pretesting and in the final version of the questionnaire were designed without reverse score items for reasons discussed below.

### 2.3.4 Reverse Score Items

Attitudinal studies that have employed Likert dichotomous statements/questions have shown that respondents tended to give conflicting responses because of the change in the positive versus negative polarity in those statements (Bishop 1990). Researchers have also found that positive versus negative connotations in the framing of questionnaires produce conflicting levels of agreement/persuasiveness under varying levels of issue involvement (Maheswaran and Meyers-Levy 1990).

A study by Friedman (1988) divided questions into three groups namely

- ◆ favourable: which contained favourably/positively worded questions
- ◆ unfavourable: which contained questions which were worded unfavourably or negatively
- ◆ mixed: which contained mixed questions.

He found that respondents have the tendency to agree more with positive statements and are hesitant to disagree with the negative statements. He recommended that in the absence of any evidence showing which type of wording is adequate for a particular situation, the mixed type of wording should be favoured.

Despite the recommendation of some researchers (for example Friedman 1988), reverse scored items were kept out of the questionnaire. This is because, in past research of this nature, such items tend to result in complaints from respondents concerning negative descriptors of their business operations and the fact that these items also tend to be lost in the purification stage (Deng and Dart 1994). It was considered that such problems might be encountered in the facilities management industry. For this reason, and despite the fact that reverse score items have the advantage of detecting the so called “yea-saying” respondent (Churchill 1979), they were completely kept out of the questionnaire.

## **2.4 Type of Data**

It is possible to undertake an exploratory by using primary, secondary or mixed primary and secondary data. While the use of secondary data might be cheaper and faster than primary data, it has the disadvantage that the data collected might not be in the format required by the researcher. Also, the researcher might not have first hand knowledge of the conditions prevalent in the field when the data was collected. In this research, to investigate the hypotheses formulated, primary data had to be collected to fit the research design. A decision whether to use cluster sampling, stratified sampling, random sampling, or any other sampling technique had to be made. In order to limit bias in the responses obtained, simple random sampling was adopted.

## **2.5 Data Collection**

In the data collection process, telephone interviews were avoided. Despite the possible high response rate in this method of data collection, it was considered that respondents might not have enough time for an extremely long discussion and questioning over the phone. This in itself restricts measurement design, and response alternatives. The bulk of the data was collected by means of a postal questionnaire, although this was complemented by information from in-depth interviews. Mail questionnaire is undoubtedly one of the most widely used, but also controversial techniques in social science research in general, and marketing research in particular (Diamantopoulos and Schlegelmilch 1996). Research involving a well structured questionnaire, which requires the collection of data that is quantitatively analysable, generally has a chance of showing a strong population validity, reliability and replicability. To have enough responses to ensure validity of the results, the need for prenotification had to be examined.

## 2.6 Prenotification

Pressures of work on the part of senior executives often means they have little time to respond to ephemeral things like questionnaires. This problem might be partly overcome by prenotification. Prenotification involves contacting respondent by mail, telephone or prior personal contact before the actual questionnaire is sent. This contact can be used as a response-inducement method. The underlying rationale behind prenotification is that, if respondents know something about the researcher and the study, they might be more likely to complete the questionnaire. With advance notification, it becomes less likely that the actual questionnaire is going to be treated as junk mail and put in the waste paper basket.

Schlegelminch and Diamantopoulos (1991) suggest that prenotification is likely to increase the response rate in a survey situation. However, care must be taken in deciding how this takes place. For example, it is argued that mail prenotification does not always work and may indeed be counterproductive particularly when industrial populations are targeted (Schlegelminch and Diamantopoulos 1991).

Despite the above potential advantages of prenotification, a trade off must be made between limited resources and the potential gain. In this particular research, it was realised that phoning or writing to 725 potential respondents was too cost intensive and hence a decision was made to avoid prenotification in the research. Without prenotification, the need to investigate the effect of non response bias is brought to focus. This stresses the possibility of the non respondents forming a significant and different group, hence making the sample non representative of the target population.



## 2.7 Non Response Bias

Nonresponse is a feature of virtually all customer surveys, and is capable of damaging the inferential value of the sample survey. For a study like this where the bulk of the data used in the analysis is obtained by a mail survey, its validity may very much depend on the response rate and the representativeness of the sample to the parent population. Some studies have found that respondents and non-respondents differ significantly in attitudes and behaviour towards some issues (Brennan and Hoek 1992).

A low response rate can result in the sample mean being significantly different from that of the population. According to Cochran (1977), non-response bias represents the deviation of a sample mean from the population mean. In sampling for proportions, the non-response bias is equal to the product of the non-response rate and the difference between the observed sample mean and the sample mean of the non response group.

Non response bias was investigated by adopting a psychometric technique involving the use of an extrapolative method to compare responses of early respondents with those of late respondents. The rationale for this approach is that the late respondents can be considered to be similar to non respondents, hence comparing them with the early respondents will give an indication, generally, of any differences between respondents and non respondents. This can be done by comparing the mean of the level of marketing orientation in the two groups. The mean marketing orientation score of the first quartile of respondents, where respondents were ranked based on when their responses were received, was compared to that of the last quartile by using a t-test. The t-statistics is used because the number of respondents in each quartile is less than 30. In order to use the t-test, the following null and alternative hypotheses were developed:

**Null Hypothesis:  $H_0$ :** the mean of the level of marketing orientation of organisations in the first quartile is not significantly different from that of those in the fourth quartile.

**Alternative Hypothesis  $H$ :** the mean of the level of marketing orientation of organisations in the first quartile is significantly different from that of those in the fourth quartile.

The results of the t-test is as shown below (table 2.2):

**Table 2.2: T-test Comparing the Means of the Marketing Orientation Level of 1st and 4th Quartile Respondents: Two-Sample Assuming Equal Variances**

	1st Quartile	4th Quartile
Mean	91.0000	92.7308
Variance	188.9600	177.9646
Observations	26.0000	26.0000
Pooled Variance	183.4623	
Hypothesised Mean Difference	0.0000	
df	50.0000	
t Stat	-0.4607	
P(T<=t) one-tail	0.3235	
t Critical one-tail	1.6759	
P(T<=t) two-tail	0.6470	
t Critical two-tail	2.0086	

The above shows that the absolute value of the t-statistics is lower than the critical t values both for one tail and two tail analysis. This means that the null hypothesis that there is no significant difference in the means of the level of marketing orientation of organisations in the first and fourth quartile cannot be rejected. What this implies therefore is that the alternate hypothesis is false.

Consequently, the effect of non response bias in the study is minimal, hence the sample can be considered to be representative of the target population.

## **2.8 Response Rate**

Out of the 725 questionnaires that were sent out to the various organisations within the sample frame, 125 responses were returned by the cut off date four weeks later and, of this number, 107 questionnaires were usable which gives an overall response rate of 17.24%. When the unusable questionnaires are eliminated, the response rate considering only usable questionnaires is 14.76%. The Royal Mail returned 20 questionnaires either due to a wrong address, or the fact that the company might have changed their physical address. When this is taken into account, the actual response rate considering only usable questionnaires and eliminating the returned questionnaires is 15.18%. According to Caruana et al (1995), 13.8% response rate is in line with present UK response rates to postal surveys addressed to senior management 'positions' when no pre-notification or follow up calls are used. In this study, the situation was made worse because due to resource constraints, self-addressed envelopes were not included with questionnaires. The representativeness of the sample was checked by investigating the existence of non response bias as shown above.

A cover letter accompanying the questionnaire promised respondents a copy of an executive summary of the results. The rationale for this promise is based mainly on morale grounds because it was considered that respondents who spend their time to complete the questionnaire are entitled to, at least, a summary of the results. It was considered that the cover letter will not assist the research in any significant way because offering a copy of the results to respondents has no positive effect on either the response rate, response speed, or the item omission rate, regardless of the nature of the questionnaire (Dommeyer 1985).

The cover letters accompanying the questionnaires were addressed to an identified individual in the organisation to which it was being sent. Identification of a particular individual when sending out questionnaires is advantageous because of the following (Terry and Skinner 1985):

- ◆ it can help in the checking of research procedures and validation of responses;
- ◆ it helps in reducing costs of mass follow-up mailings to all survey recipients;
- ◆ it can help in reducing the bother of follow-ups to those who have already responded to the survey; and
- ◆ it can be useful in studies of a longitudinal nature where several waves of survey data are aggregated by respondents.

The identification of individuals in the cover letter was undertaken because no major disadvantages could be identified in such a procedure although there is no certainty that this procedure could increase the response rate. There is the possibility of personalisation in a cover letter making the potential respondent to place greater importance on the responses (Cavusgil and Elvey-Kirk 1998), although empirical evidence seem not to show any other significant benefit. In a study by Terry and Skinner (1985), some respondents to a mail survey were identified and sensitised to their identification by a message in the cover letter. They responded at a similar rate, within the same time span, with an equivalent number of completed answers and with answers of like quality to those that were not identified.

## **2.9 Self Assessment**

In order to investigate the performance of companies, an objective approach where actual values of performance are used such as sales growth and profit levels can be used (Cronin and Page 1988, Chakravarthy 1986). A subjective approach in which respondents are asked to state their performance relative to their competitors can also be adopted (Verhage and Waarts 1988, Golden

1992). Due to difficulties in collecting actual information on the performance of companies because such information is considered sensitive and highly confidential by many companies, self assessment was used. The theoretical rationale for the use of the latter approach is that many studies have found a strong correlation between the subjective responses and objective measures of performance (Roberson and Pearce 1988, Dess and Robinson 1984). Self-assessment has also been shown to have a significant correlation with results based upon internal company information (Des and Robinson, 1984) and published sources (Venkatraman and Ramanujam 1986).

It is generally advisable that results from self assessment be substantiated using published information where available and against competitors assessment to ensure validity.

## **2.10 Reliability and Validity Issues**

A reliable measure can be defined as a consistent, dependable or stable measure. The concept of reliability in measurement theory as we know it today was introduced by Spearman in 1904. Every measure consists of the true measure and an error component or stochastic coefficient. The true measure which is the perfect measure of the characteristic in question is usually not attainable, hence it is usually taken as the mean score of several administration of the same measurement scale to the same subjects.

In order to measure the reliability of the marketing orientation scale developed in this research, three options were available namely:

- ◆ test and retest method;
- ◆ alternate form method; and
- ◆ the internal consistency method.

The test and retest method involves the administration of the same test or questionnaire to the same subjects after a uniform period of time has elapsed. This method was eliminated because of recollection problems with the

subjects involved. The method was also not very practical because of the fact that the sample frame for the research involved more than 700 organisations hence to recollect data from the same individuals would be costly in time and monetary terms. From a technical point of view, this method was not favoured because the responses in the second test might be affected by the administration of the first test, and the fact that between the two tests, uncontrollable variables might interact and affect the results.

The alternate form method involves the same subjects being subjected to two different scales purporting to measure the marketing orientation construct. This method can also be affected by uncontrollable variables between the two tests. It was difficult to find or construct two different measures of the marketing orientation measure hence, this method was eliminated.

In this project, the internal consistency method was favoured. It consists of response scores being split into two groups. Reliability is determined by correlation between the two groups. While the problems of the first two methods are eliminated, this method is still problematic in that different correlation results are obtained depending on the position where the data is split. This serious problem was eliminated by using Cronbach's coefficient alpha. This measures the mean correlation for all the possible ways of dividing the data in half.

### **2.10.1 Validity of the Marketing Orientation Measure**

Great effort was made to validate the marketing orientation construct developed in this study. Valid measurement is the sine qua non of science and without sound measurement techniques, there is no science. This has caused the advocates of the quantitative paradigm to question the legitimacy of qualitative research for they hold that it lacks either the reliability or the validity to be considered an objective, acceptable science (Shepherd and Helms 1995). Reliability indicates precision in measurement but does not

indicate the validity or the degree that the issue we are trying to measure is being measured, hence reliability investigation is necessary but not sufficient criterion for accepting a measure.

Generally, research involving questionnaire surveys can be lacking in internal validity when compared with other scientific methods of research, such as experimentation. This is because the control of competing or rival hypothesis in the study can become extremely difficult. The design of this project is based on the analysis of numerous variables using multivariate analysis in order to control extraneous variables. Great attention was put in checking for various forms of validity because such an approach generally has the tendency of weakening any causal relations that are arrived at. Any correlation identified might not necessarily prove causation. The need for a thorough investigation of the validity of the marketing orientation construct developed was necessitated by the realisation that even if correlation is present, a lack of temporal ordering between the independent and dependent variables will limit its ability to give the direction of causation between these variables.

The validity of the marketing orientation scale developed was approached by investigating the following:

- ◆ construct validity where the correlation amongst issues from theory and prediction are investigated (Cronbach 1970),
- ◆ convergent validity where the correlation between responses obtained by maximally different methods of measure of the same construct are investigated (Campbell and Fiske 1959), and
- ◆ content validity where the level that practitioners and scholars in the marketing orientation area agree that the constituent items cover all aspects of the variables being measured is investigated (Nunnally 1978).

The above validity issues take into consideration the forms of validity discussed below.

### **2.10.2 Face Validity**

This type of validity depends on the subjective assessment of the researcher and is primarily concerned with the relationship between the measure and the construct it purports to measure. In this type of validity exercise, for example, a decision had to be made whether profitability is the correct measure of performance or whether a combination of various performance measures such as market share, sales growth, and client retention is more appropriate.

### **2.10.3 Criterion Validity**

Criterion validity is concerned with how well the item measured predicts a future outcome. It is of critical importance if the item being measured is thought to have a predictive power. Marketing orientation is thought to be related to good performance and good management hence, good management or performance can be used in criterion validity.

### **2.10.4 Content Validity**

This involves the sampling adequacy and might be undertaken by subjectively deciding if the test items fully cover what is being measured. Discussions with practitioners and academicians in the subject area were used in this domain.

### **2.10.5 Construct Validity**

This involves the correlation between the unobservable conceptual construct, and a purported operational measure of that construct. Construct validity is composed of trait validity, which is made up of convergent validity and discriminate validity and also nomological validity. Discriminate validity involves the degree of discrepancy between several measures that are not designed to measure the same construct, while convergent validity is almost



the apposite of discriminate validity. Nomological validity requires the assessment of the measure in terms of formal hypothesis derived from theory and generally involves various studies completed.

### **2.11 Formulation of Hypothesis**

When undertaking a study of this nature, there is always a question of whether to approach each strand of investigation with an a priori hypothesis, and then proceed to prove or disprove it. The above decision was approached with the recognition that there are two avenues of gaining knowledge, namely:

- ◆ by deduction where you start with a hypothesis; and
- ◆ by a data led induction where hypotheses and conclusions follow from the data and not vice-versa.

The argument whether to hypothesise or not to hypothesise is characteristically similar to the argument whether to use a quantitative or an interpretative approach. Advocates of an a priori hypothesising approach in research methodology argue that hypotheses should be formulated in advance of survey research, a confidence level established before hand, in terms of which the null hypothesis should be rejected. Data should only be used for testing hypothesis built into the research design. They hold that the hypothesis-testing approach to analysis provides the most epistemologically sound basis for increasing our knowledge. Surprise and unanticipated patterns in data discovered as a result of data-dredging are logically suspect although perhaps psychologically tempting (Alt and Brighton 1981). In this study, the hypothetico-deductive approach with an a priori hypothesising foundation was adopted in various strands of investigation. Since the study is based on a triangulation of methodologies, where it was not appropriate to hypothesise since there is theoretical evidence supporting both sides of the argument, the research methodology adopted was to pose a question and then carry out analysis to find the answer. A priori hypotheses were generally adopted although it is acknowledged this might have some effect on the data interpretation. Two

quantitative researchers who start with marked differences in orientation, might be driven to different interpretations, not only of the problem as a whole, but even of identical datasets (Collins 1989). It was considered that the percentage of overall error attributable to such an effect in this study is small, hence a priori hypothesising was greatly used.

## **2.12 Data Analysis**

Data used for research purposes can either be quantitative or qualitative in nature. The application of quantitative techniques to business has long been an area of contention with proponents and opponents. For the quantitatively literate, it offers a wealth of opportunities to explore data afresh and gain new insights into phenomena, while for the quantitatively ignoramus, it produces scepticism or strikes downright fear into the heart (Hussey and Hooley 1995). Although qualitative researchers in marketing might not be held in high esteem by some in the citadel of academe, they might be nearer the marketing executive than they are given credit for. A good many marketing executives have been described as (Lilien and Kotler 1983) being in the deepest recess of their psyches artists not analysts who consider marketing as an art form. Their temperament is antipathetic to system, order and knowledge for they enjoy flying by the seat of their pants, and revel in chaos, abhor facts, fear research, and hate to be trammelled by written plans. They love to spend but are loath to assess the results of their spending. The problem for the researcher and for the manager is to take what is inherently noisy data, and try to infer some system from it in order to develop useful patterns and regularities (Fitzroy 1976). A typical example of this is in the scale development process.

## **2.13 Scale Development**

A scale that can adequately capture the operationalisation of the marketing concept in the facilities management industry was developed by using various analytical and psychographic techniques. These included correlation analysis,

factor analysis, reliability analysis, validation techniques and others. The scale development process also helped in the investigation of some of the hypotheses developed in the study.

## **2.14 Model Development and Validation**

A benchmarking model was developed to assist managers in benchmarking their organisations in terms of marketing orientation. The model development involved all responses from the 107 usable questionnaires but the validation process made use of respondents who were not in the original sample that was used to construct the model. The model development process involved various sequential stages and the presence of all these stages helped in decreasing any possible excess sensitivity of the model since any change in any of the input variables is subjected to various stages.

## **2.15 Summary**

The study is approached from the principle of neopragmatism where absolute positivism is rejected and a triangulation of methodologies is favoured. The author also believes that equifinality (i.e. the view that the same results can be obtained by different methods) is of limited application because certain truths can only be unveiled by adopting certain methods and some methods can be totally inadequate to investigate some truths. While it is accepted that the quantitative and interpretative paradigms might be based on different ontological, axiological and epistemological assumptions, they should be considered not as rival but complementary paradigms. The merits of each paradigm is well established. It is the author's experience that any attempt to discredit and abandon any of the paradigms might likely result in academics and practitioners within each camp digging deep in entrenched positions with insults flying like mortar bombs from one camp to another. The absolute objectivism of a hypothetico-deductive logical positivism embedded in the quantitative paradigm might be considered as sophisticated falsification

punctuated with data dredging emanating from a highly automated multivariate jungle by the non quantitative researcher. On the other hand, the quantitative researcher might be tempted to doubt the interpretative approach because of its inherent relativity, subjectivity and lack of replicability. Within the innermost part of his psyche, the hardcore quantitative researcher despite any manifestations to the contrary, still harbour the belief that what the interpretativist is saying or doing, is generally not far above the realm of the slightly more than average ignoramus. Combining these two approaches might help to alleviate the fears of both camps. This triangulation was mainly used in the scale development process since all the research depends on the marketing orientation scale developed. It was also used in the model validation process.

It is hoped that the results obtained from this study will be valid and generalisable because of various efforts to check and correct for possible sources of errors such as reliability analysis, non response bias analysis, validity analysis, interviewer effect, and so on. The validity of the study is further buttressed by the fact that most of the calculations undertaken in scale development and model building exercises start from first principles, hence decreasing the chances of error accumulation in the process of analysis.

## CHAPTER THREE: INTRODUCTION TO THE FACILITIES MANAGEMENT INDUSTRY

### 3.1 Introduction

Despite the fact that there are more than four thousand members of the British Institute of Facilities Management (organisation controlling the facilities management profession in the UK), there is still a lot of confusion about what facilities management is, and what it is not. The term facilities management has been used to denote the supply of individual support services including property management, building maintenance and strategic management of the workplace. Despite this confusion, in the UK, the industry is rapidly expanding. The market is characterised by totally new firms establishing, and others springing-off from relatively well established sister industries such the Construction industry.

### 3.2 Definition of Facilities Management

The Centre for Facilities Management (CFM), University of Strathclyde observes that there are many definitions of 'facilities management' and up to date, there is no industry-wide agreement of the description of what facilities management is. While many definitions exist, most of them share a common central theme, although with emphasis on different aspects of the profession. This lack of a clear definition and the fact that the industry is still at an early developmental stage in the UK (Nutt 1998) has resulted in many people both qualified and unqualified, presenting themselves as facilities managers. These people at times might not have the necessary expertise to undertake the services they purport to provide. A summary of some of the definitions as put forward by various bodies involved in the facilities management industry is given below.

The Association of Facilities Managers (AFM) defines facilities management as the practice of co-ordinating the physical workplace with the people and

work of the organisation. It involves integrating the principles of business administration, architecture, behavioural and engineering sciences, in which the facilities manager is responsible for co-ordinating and managing a very wide range of specialist areas. These areas include property and estates, construction and refurbishment, space management, maintenance and operations, information technology, support services, and to an increasing extent, human factors. AFM stresses that the role of the facilities manager spans strategic planning, policy making and the creation of standards, through to day-to-day operations management, services and consultancy, and co-ordination of special projects, such as relocation and re-organisation.

The Henley Centre for Forecasting defines Facilities Management as a generic term referring to the external management of all company services that are not specific to core business activity, including building management, data management, catering, security, distribution, reprographics and printing. This definition although covering most of the operational aspects of facilities management, fails to stress the strategic nature of facilities management in assisting an organisation to obtain competitive advantage over its competitors.

Strathclyde University's Centre for Facilities Management defines facilities management as 'the process by which an organisation delivers and sustains a quality working environment and quality support services to meet the organisation's objectives at best cost'. This definition takes into consideration all services and systems that support the organisation. The working environment in this definition includes the physical, administrative, social settings for productive activity, and all systems and services that support the business operation, hence leading the Centre to conclude that facilities management is demand driven.

The International Facilities Management Association (IFMA) which is the American equivalent of the British Institute of Facilities Management extends the definition of Facilities Management. It considers facilities management as the practice of co-ordinating the physical workplace with the people and the

work of the organisation; and integrating the principles of business administration, architecture and the behavioural and engineering sciences.

It can be seen from the above definitions that facilities management processes endeavour to identify needs, design and produce a specification to satisfy those needs, such as the creation and agreement of service standards or levels with senior management and the user of services. This rationale for facilities management is very much in consonance with the concept of marketing orientation as will be explained later in this study.

Facilities management is different from the 'contracted-out business' services. The main difference between the two is that the former is proactive and strategic in nature, manages the planning and delivery process and involves high value addition, while the latter is the operation, maintenance and provision of particular services for facilities. For an organisation, the strategic facilities management issues include (Alexander 1994):

- ◆ creating a facilities policy that expresses corporate values;
- ◆ giving the authority to the facilities business unit to improve service quality;
- ◆ developing facilities to meet business objectives;
- ◆ recognising the value that facilities add to the business.
- ◆ formulating and communicating a facilities policy;
- ◆ planning and designing for continuous improvement of service quality;
- ◆ identifying business needs and user requirements;
- ◆ negotiating service level agreements;
- ◆ establishing effective purchasing and contract strategies;
- ◆ creating service partnerships; and
- ◆ systematic service appraisal including quality, value and risk.

### 3.3 Organisation of Facilities Management Departments in Corporate Entities

Facilities management departments in larger organisations in the UK have started to become the focus of greater recognition (De Lucy 1988). This is because of wide spread acceptance of the fact that good working environments matter, and the realisation that the costs of providing them are now second only to personnel costs. What used to be a necessary yet expensive and low-status department has become a vital component of the organisation with short lines of communication to the chief executive. Despite this, facilities managers have little or no chance of succeeding unless their department is highly regarded within the organisation, is part of the planning and strategy framework, and seen to be giving a good quality professional service (De Lucy 1988). The success or failure of the facilities management department in corporate organisations might depend on how it is organised and its relationship with other departments within the same organisation.

A generic facilities management department within a corporate entity generally consists of the following (Thomson 1990):

- ◆ real estate and building construction;
- ◆ building operations and maintenance;
- ◆ facilities planning; and
- ◆ general/office services.

Though the above might not be found in the exact form in many facilities management departments, at least two of the primary functions should be found in any reasonably developed facilities department of any major corporation. While building operations and maintenance, general/office services, and building construction are activities to be managed within the context of facilities management, it is in facilities planning that strategies that relate buildings and other assets to corporate aims and objectives are generated.



In the facilities management department, operations can be grouped together by function hence, stationery, purchasing and printing can be integrated, while fabric maintenance, cleaning, and catering can be grouped together with security since these operations can easily be contracted out if need be (De Lucy 1988). In whatever way the facilities management department is constituted, the interface between the department and the corporate boardroom should be strengthened so that the strategic suggestions can be recognised by top management. This will give the department the necessary top management support needed to adequately operate.

### **3.4 Facilities Management Industrial Development**

Even before the term 'facilities management' was coined, the profession in one form or another was being practised. In October 1980, a group of some 40 managers, met in Michigan (USA) to investigate what constituted a good workplace, and how the work place can be significantly improved. This meeting started what was known as the Facilities Management Institute (FMI) which later became known as the International Facilities Management Association (IFMA). By 1992, the association had about 16,000 members in the USA alone.

The emergence and rapid growth of the industry in the United Kingdom can be traced to the early 80's which was characterised by market turbulence, technological changes, cost containment, globalisation and service improvement in order to increase competitiveness. Public and private sector institutions had to look for ways of increasing value in their products and services. The need to concentrate on the core business and to convert certain fixed costs to variable costs led to a lot of institutions downsizing and/or contracting out, hence fuelling the growth and establishment of the industry.

The first facilities management conference in the UK was organised in 1984 although there had been a lot of facilities management activities before then.

Professional development of facilities management led to the formation of the Association of Facilities Managers (AFM) and the Institute of Administration Management (IAM/FMG). In mid 80's, the Institute of Facilities Management (IFM) was born from the Institute of Administrative Management and the Association of Facilities Management (AFM). The later formation of EuroFM, linking non-profit-making bodies and extending through 14 European countries, provided a means of transferring information and experience related to the area of activity. This helped to further fuel the growth of the industry. By 1984, a handful of companies were already establishing themselves in the UK's facilities management contract market. Understandably, this was a time when cost efficiencies and quality were important renewed concerns in organisations. Long before the 1980's, many companies employed contractors to supply regular support services, such as cleaning and catering. Despite this, the supply and day-to-day management of facilities operations was a new concept and was the foundation of the facilities management profession in the UK. Around this period, many organisations started to recognise the importance of facilities management but were at times too small to afford it as a permanent overhead. Small businesses, branch offices and other institutions, either because of size or limited resources, often required that all permanent overheads should service the core business directly. This brought with it the need to investigate the possibility of contracting out non-core operations.

The rapid growth of the facilities management industry in the UK can be attributed to different factors. Prominent amongst these is the fact that most organisations started realising that the previously held notion that support services were static was highly suspect (Willis 1992). They realised that a highly fluid and ever changing organic core business needs highly critically tuned non-core support services. The support services should be equally dynamic and tailor-made to suit since businesses best function in an environment of a highly integrated strategic alignment of core and non-core activities. The accelerated growth in facilities management in the past decade can also be partly explained by viewing it as a consequence of a rapid change in products and product life cycles. In the past, a lack of market and

technological turbulence meant that well designed buildings could not easily become functionally obsolescent. With such a stable environment, processes and individuals tried to adapt to the environment. The advent of office automation greatly changed the working environment and with the life cycle of change getting shorter everyday, together with buildings and other facilities becoming extremely complex, the need for proper management of facilities increased many fold. The industry in the UK greatly expanded also because of the expansion of the contract service sector in the hospitality industry. Many business clients and public organisations involved in this industry started contracting out their non core services. The reason for this is two fold namely (Wilson et al 1997):

- ◆ business organisations have chosen to concentrate on their core activities and use specialist support services to supply their catering and domestic needs; and
- ◆ the introduction of compulsory competitive tendering (CCT) within the public sector has widened the opportunities for the contract catering market.

Interest from other industries also influenced the growth of the industry. Many established firms in other professions started developing an interest in facilities management not only because it can provide much needed work, but also because it seemed to be relatively hedged against the adverse effects of the boom and bust economy suffered in the other professions. While the building industry is generally prone to boom and bust, facilities management is almost a non cyclical affair because periods of recessions produce more or less work for facilities managers, in the form of consolidation, managing occupancy costs, rationalisation and so on (Duffy 1990). The relative stability of the industry can be considered as one of the factors contributing to the rapid growth of the market. This growth resulting from many factors has greatly increased the complexity of the industry, and the level of competition. Clients are also becoming more aware of the importance of facilities management and what to expect from the industry. In such a scenario, there is the need to investigate what constitutes good customer service in the industry and the

important parameters that should be present in any attempt to be more market responsive, hence this study.

### **3.5 Industrial Identity**

The industry, despite experiencing a rapid growth of late, is still in the early developmental stages, where there is still a controversy over the issue of it being already a profession or not. Leaman (1992) states that it has all the ingredients to becoming a profession, but it cannot yet be regarded as a profession. He holds that in the UK, facilities management emerged in the 1980s as a candidate for professionalisation because the business of managing buildings became more challenging, the knowledge required was hard to win, and the performance of buildings became more important to the way in which organisations function. This was because of the growing sophistication of buildings, increasing end user requirements, and a changing market place.

On the other hand, facilities management in the UK can be considered as a profession. It is controlled by a professional body with more than four thousand members. To underpin this, many institutions of higher learning are now offering courses in facilities management. Despite this, the industry is young, and continues to be reliant to a large extent, on borrowed management concepts on one hand, and on the results of building performance research on the other hand (Nutt 1998). The early developmental stage of the industry qualifies it to be considered as an emerging industry. Such an industry is different from mature industries such as the construction industry and others that are more than hundreds of years old. Mature markets and industries have certain characteristics that differentiate them from growth markets such as the UK facilities management market. Prominent amongst these are (Christopher 1996):

- ◆ customer sophistication;
- ◆ decline in the impact of advertising;
- ◆ perceived product equality; and
- ◆ price competition.

The difference between emerging industries and mature industries brings to focus the need to investigate if existing assumptions on marketing orientation derived from studies mainly in mature manufacturing industries are applicable in emerging industries.

### **3.6 Future Direction of Facilities Management**

The future of facilities management is reliant on the development of a multi-disciplinary and multi-professional culture to provide internal coherence for those operating across the diversities of the field, and external coherence to the business community, the property professions, government agencies and the public (Nutt 1998). This developing multi-disciplinary culture should be hinged on the marketing concept, and all market-driven issues affecting the industry well researched, hence this study.

Facilities management issues of the future have been identified as (Alexander and McFadzean 1992):

- ◆ providing a healthy workplace for creative people;
- ◆ increasing adaptability to changing business needs;
- ◆ assimilating the potential of new technologies;
- ◆ ensuring the full use of diminishing resources while minimising environmental impact;
- ◆ increasing adaptability to changing business needs;
- ◆ providing a healthy workplace for creative people;
- ◆ assimilating the potential for new technologies; and
- ◆ ensuring full use of diminishing resources while minimising environmental impact.

The above results to a strategic realignment where change management and customer focus are the main issues. Unfortunately, despite the industrial changes, the field of facilities management remains invisible on the agenda of the national research councils, in the extensive range of EC research programmes, and in the business plans of government departments such as the DETR and DTI (Nutt 1998). This lack of attention might require the

organisations within the industry to put individual efforts to be more market driven. They must be capable of identifying the present, future and latent needs of their customers, and be capable of adequately satisfy these needs. The need for the above has been made more urgent with the introduction of the Transfer of Undertakings (TUPE) regulations in the industry.

### **3.7 The Transfer of Undertaking (Protection of Employment) Regulations in the Facilities Management Industry.**

The Transfer of Undertakings (Protection of Employment) Regulations 1981 (TUPE), implemented in domestic law terms, the European Community's Acquired Rights Directive of 1977. It applies to the transfer of an undertaking, business or part of a business to another employer as a result of a legal transfer or merger. This directive had the effect of making sure that where an employer takes over a business, he takes not only the assets and business of the transferor but also the obligations towards the transferor's employees.

The significance of TUPE to facilities management has been greatly influenced by certain decisions of the courts. The European Court of Justice in many cases has significantly increased the scope of the Acquired Rights Directive. In 1993, in the case of *Rask v Kantineservice*, it held that the directive could apply where a catering contract was awarded. In 1994, in the case of *Schmidt*, it held that the directive could apply where a service involving a single cleaner was contracted out. The European commission, on reviewing the implementation of the 1977 directive, found that its implementation in Britain was wrong and amendments were made in the Trade Union Reform and Employment Rights Act 1993. Before this amendment, case law in Britain had a prerequisite that property be transferred for there to be a transfer of undertaking within the meaning of the regulations. The 1993 amendment removed this requirement, hence making it possible for service contracts to be covered under the regulation. The facilities manager has to decide if TUPE applies in a particular situation or not and take all the necessary steps to safeguard the interest of the client when services are being

contracted out. TUPE has resulted in many facilities management organisations that have won outsourced businesses ending up with the staff of the client as part of their work force. With this inherited workforce, it is necessary for the organisation to be market driven in order to decrease waste, and create a sustainable competitive advantage.

It used to be the case that the principal question raised by outsourcers with regards to the Transfer of Undertakings (Protection of Employment) Regulations 1981(TUPE) was whether TUPE will apply. Now, due to recent cases, it is generally taken as read that TUPE applies. Despite this, for TUPE to apply, there must be a transfer of what the UK courts have termed a “going concern” and which the European courts have referred to as the transfer of an “economic entity”. The Bartol case reiterated the factors to be considered in determining whether TUPE applies or not namely (McArdle 1996):

- ◆ the type of business;
- ◆ whether tangible assets have been transferred e.g. premises/stock;
- ◆ value of intangible assets e.g. goodwill;
- ◆ whether customers transfer;
- ◆ degree of similarity between activities carried out by transferor (the old employer);
- ◆ duration of any period during which activities are suspended; and
- ◆ whether the majority of the employees are taken over.

The need to manage people and buildings at the workplace in the case of TUPE applying in a transaction has increased the influence of facilities management.

The role of facilities management in the UK was also strengthened by the introduction of compulsory competitive tendering (CCT). The Compulsory Competitive Tendering (CCT) for local authorities was introduced in 1993 and this required local authorities to market-test at least 35% of their architectural and engineering services by October 1995, and at least 65% by April 1996. This has greatly increased the volume of contracted out services available in the facilities management industry. Presently, the local authorities are moving

to the principle of 'Best Value' which involves making sure that rate payers receive quality services at a price they can pay. All these changes in the facilities management industry requires that the industry be investigated to find ways of adapting and coping with the changes and be more market responsive hence, the need for this study.

Generally, there are advantages and disadvantages in outsourcing certain activities of an organisation. The advantages include the following (Blumberg 1998):

- ◆ it offers significant cost savings across a wide range of low-margin, non-differentiated services as well as additional income opportunities;
- ◆ outsourcing non-critical functions permits a company to increase its financial resources;
- ◆ eliminates investments in fixed infrastructure;
- ◆ allows for greater quality and efficiency;
- ◆ permits increased access to functional expertise;
- ◆ outsourcing provides a competitive advantage and creates new revenue streams by allowing outsourcers to offer services that would otherwise require considerable expense and commitment of personnel; and
- ◆ using an outside provider allows outsourcers to test market demand for a service in a less risky, more cost-effective way than creating the service internally with service resources.

On the other hand, the disadvantages of outsourcing encompasses the following (Blumberg 1998):

- ◆ requires a change in management mind set;
- ◆ requires a new and more complicated level of communication;
- ◆ introduces a host of new outlooks, personalities, and demands that can produce new problems;
- ◆ introduces insecurity to the workforce and unions;
- ◆ monitoring and evaluating the performance of vendors is a difficult task;



- ◆ outsourcing functions that have customer contact runs the risk of alienating customers;
- ◆ outsourcing at times is difficult to realise in the short term; and
- ◆ long-term contracts which feature short-term savings may prove expensive later.

The facilities manager has to weigh the advantages and disadvantages, and decide whether it is in the interest of the organisation to outsource or to depend on in-house services. However, in making this decision, a paramount importance should be given the desire to create superior value to the customer.

### **3.8 Facilities Management Clients**

The market place is populated by various clients with different expectations, and different wants and needs. They also differ in the way they emphasise these needs. This results in increased pressure for suppliers of services to be more market responsive. The major clients in the facilities management market include the central and local governments, private clients, the NHS, and others.

#### **3.8.1 The Central Government**

The main reasons for employing external facilities managers by both public and private clients to undertake facilities management operations include (Owen 1989):

- ◆ a deteriorating condition within organisations without sufficient time, manpower or skills to correct it. This trend is well established in the healthcare sector;
- ◆ the need to apply more stringent standards to contract work than to work undertaken in-house; and
- ◆ the need to achieve cost savings.

The public client influences the efficiency of the industry by affecting the manner in which contracts are administered. It also determines the quality and

productivity of the market, since standards set by the central government or local authorities are easily followed by the private sector, not least because the government is the biggest purchaser of services in the industry.

### **3.8.2 The Private Client**

Apart from the central and local government, other main purchasers of facilities management services include the various National Health Service Trusts, higher education institutions, and privately owned corporations. Despite the increasing awareness of the importance of facilities management by corporate clients, it is still extremely difficult to get a 'ready made' and 'off the shelf' package that can be most appropriate to the ever changing corporate world. The ideal scenario would be a one stop and single invoicing by a corporate client for all its facilities needs. The industry must evolve to meet this challenge and also try to calm the fears of some people who are apprehensive because they do not understand what it is offering. Many corporate clients have fears and need to be reassured about their own roles and their level of commitment when dealing with external facilities managers, since many are not sure what facilities management truly is and what it can do for them (Willis 1992). The fact that the boundaries of the industry are not well defined implies that clients without adequate checks in their systems can be manipulated by unscrupulous individuals and companies claiming to supply facilities management services.

#### **3.8.2.1 The National Health Service**

The National Health Service (NHS) is a major purchaser and therefore has a significant influence in the market. By 1992 when facilities management was starting to gain a foothold, the NHS in order to discharge its responsibility for hospitals, primary health care, and some community care, employed 1.25 million personnel and spent approximately 25 billion pounds per annum which constituted about 1/8 of all public spending in the UK at that time (Haigh and Morris 1992). Since its creation in 1948, one of the central features of the

operation of the NHS has been the relationship between the perceived need to contain the cost of the service within what has been thought by the government of the day to be 'reasonable bounds' and the goals of efficiency and equity that form the crucial part of the manifest rationale for the service's creation (Haigh and Morris 1992). This need to contain cost has brought into focus the management of non core services, hence the importance being given to facilities management in the NHS recently.

Despite the fact that the NHS is a national service subject to Parliamentary and civil service controls, it operates as an amalgamation of semi- independent NHS trust that manage their own budgets. The present NHS form began with the "Working for Patients" Government White Paper (Department of Health, 1989), which stipulated that the NHS be re-modelled on the general business environment in order to improve efficiency and quality of care. The NHS trusts have been significant in purchasing services in the industry. This is largely as a consequence of the fact that the NHS itself has developed facilities management capabilities by evolving its traditional estate practices, and the realisation that facilities are the second largest element of NHS expenditure after personnel (Fetton 1995). The introduction of compulsory competitive tendering into the NHS also had a positive effect on this growth (Webb et al 1997). Facilities management within the NHS and services purchased vary from trust to trust and may include the following (Rees 1997):

- ◆ Catering;
- ◆ Cleaning;
- ◆ portering/security;
- ◆ health and safety/risk management;
- ◆ reception/switchboard;
- ◆ preventive maintenance;
- ◆ defects maintenance;
- ◆ energy consumption;
- ◆ transport; and
- ◆ grounds and gardens.

### 3.9 The Facilities Manager

Facilities management is a cross-disciplinary endeavour requiring the use of generic management skills in the management of customers, managing services and managing assets. It involves promoting corporate identity by organising services to meet the end user and the business needs, and getting people involved so that they are most motivated to perform at their best. The facilities manager needs technical competence, knowledge and experience, but also analytical/general knowledge. To adequately undertake his/her duties, the ability to adapt to change must be one of the key skills at his/her disposal since the industry is rapidly changing.

Coping with and planning for change can be the major challenge for the facilities manager. A major change in company strategy can have important implication on the usage of premises, hence the facilities manager should be involved in the drafting or redesign of company strategy since the premises portfolio in many companies ranks second only to people as the most expensive asset. Ideally, facilities management should have board representation or at least one of the board members should have direct property experience.

By 1992, the role and importance of the facilities manager in UK organisations was already being appreciated. According to the Association of Facilities Managers, a survey of financial rewards around this period showed that senior facilities managers were being paid significantly higher than holders of senior jobs in related professions. In a study by the Association of Facilities Managers during this period, it was found that the salaries for facilities managers on the highest level averaged £45,019.00. This had lower and upper quartiles of £38000.00 and £56000.00, which was substantially greater than salaries for jobs like architects, management surveyors, or building service managers with averages of £34316.00, £33132.00 and £34712.00 respectively. The study consisted of 255 workers in 31 organisations which

fell into five groupings consisting of, trusts and societies (3%), public organisations (42%), private firms (31%), partnerships (17%), and public sector organisations (7%). The study also found that varying scope and status is still being accorded to facilities management by different organisations.

### **3.9.1 Importance of the Facilities Manager**

Government and public bodies must now comply with a number of procurement directives from Brussels. They must also draft invitation to tender documents by referring to European standards where they exist and are appropriate. This has made the need for facilities managers in these public bodies imperative in order that they see over the compliance to these requirements.

The European Commission has also promulgated a number of directives that must be complied with in the work place. The facilities manager has to make sure they are being complied with. These include the Safety Framework Directive adopted by the Council of Ministers in 1989, the Manual Handling of Heavy Loads Directive, the Visual Display Units Directive, and the Temporary Workers Directive.

Due to the rapid growth in the importance of facilities management over the last decade, traditional professional bodies in the building industry, such as RIBA, RICS, CIOB, CIBSE, appointed committees to identify the opportunities provided to their members by the continuous growth of facilities management. Some of these organisations tried to redefine facilities management and limit its scope to fit within their long established fields of practice. A typical example of this is the Royal Institution of Chartered Surveyors (RICS) which tried to claim that it was part of estate management as long practised by its members.

The introduction of the Health and Safety Act 1974 required employers to assess the risks at the workplace and provide written policies to guide and

prevent these risks from being realised. This act finally led to the introduction of the Control of Substances Hazardous to Health Regulations (COSHH1988), which went further to stress the need for risk assessment at the work place. In 1992, the Management of Health and Safety at Work Regulations (1992) and the Workplace (Health, Safety and Welfare) Regulations (1992) came into effect, both dealing with the auditing and monitoring needs in the workplace. There is the need for a strict adherence to the COSHH Regulations regarding storage and documentation of all hazardous substances used in the office including cleaning materials. There is also a need to comply with the Food Safety Act and accompanying Hygiene Regulations particularly with regards to kitchens, food preparation areas, staff dining/restaurant facilities. This has further increased the overall importance of the role of the facilities manager in a corporate organisation.

Poor building maintenance can lead to contamination of water sources by legionella that causes legionellosis. Recent HSE guidelines require all employers to review their water services and if possible, prepare an action plan for remedial work. The Code of Practice on Prevention or Control of Legionellosis, as enforced by the Environmental Health Officer in commercial buildings, requires the compulsory registration of evaporative cooling towers and this can be handled by the facilities manager.

The coming into effect of the Transfer of Undertakings (Protection of Employment) Regulations (TUPE) brought legal uncertainties surrounding when it applies. Serious difficulties have been experienced by those putting service contracts to tender in the last few years because of these uncertainties. This has brought a lot of chaos in the public and private sectors, hence necessitating the need for facilities managers to be involved.

### **3.10 Facilities Management as a Service Industry**

The items sold and purchased in the facilities management industry are services. The characteristics applicable to the marketing of services apply

generally to the industry. The main difference between the industry and other traditional service industries might be the mere fact it is a relatively young industry that is still in the developmental stages of its evolution. The characteristics of services in the industry are as discussed below.

### **3.10.1 Characteristics of Facilities Management Services in Relation to Marketing**

In the planning of the marketing of facilities management services, the main characteristics that affect their marketing must be taken into consideration namely:

- ◆ the lack of ownership and transaction of ownership of services;
- ◆ production/consumption interaction of services; and
- ◆ the intangibility of services.

The marketing implications of these properties is as discussed below.

#### **3.10.1.1 Lack of Ownership and Transaction of Ownership**

Despite the fact that facilities management might at times include the marketing and transfer of assets, such as the sale of the ownership of buildings, generally, ownership of the services is not involved. This lack of ownership in the services sold and bought makes it imperative that the organisations within the industry develop a market driven approach so that customers can believe they are having value for money.

#### **3.10.1.2 Production/Consumption Interaction**

Facilities management services, like other services, are generally characterised by a lack of distribution middlemen, a lack of differentiation between the producer and distributor, hence the services are generally being consumed as they are being produced. The significance of this, in terms of marketing orientation, is that the firm can use both the production process and the distribution process to create a strategic competitive advantage. This can be

done by being marketing oriented all along the service chain since the firm is in the unique position of having full control of both the production and distribution operations. In this study, it is hypothesised in chapter four that value-added orientation is a component of marketing orientation and this involves analysing, amongst other things, the value chain of the service provided. With this in mind, the control of the production and distribution operations is an asset in fostering a marketing orientation in the organisation.

#### **3.10.1.2.1 Interactive Marketing**

Interactive marketing assumes that the perceived service quality depends heavily on the quality of buyer/seller interaction. In judging the level of services, clients take into consideration both the level of technical quality and functional quality. In a survey in the NHS, it was realised that customers did not complain about the medical service itself, quality of equipment for medical treatment, or administrative efficiency. Their main complaint was the way they were treated by their general practitioners including, failure by the doctors to tell them what was wrong with them, and the fact that they were usually left hanging around (Nwankwo 1995 and Burns 1992). Another example of the importance of functional quality in the evaluation of the level of services provided was demonstrated in a comparative study of two borough councils in the UK. The survey demonstrated that customers were more satisfied with the level of services in Solihull than in Richmond, although Richmond provided 'better' services than Solihull in terms of refuse collection, parks, care of the elderly, road maintenance, housing repair quality and so on. From the study, it emerged that although Richmond provided 'better' services, the staff at Solihull council treated their customers better and that was one of the main factors why the council was rated higher by customers (Nwankwo 1995 and Burns 1992). The above indicates that the soft factors accompanying a product or service can be equal or more important than the service or product itself. The need to pay particular attention to this fact is even more acute in the facilities management industry, since the industry is generally concerned with intangible non-core services.



### **3.10.1.3 Intangibility**

Services are immaterial and physically intangible. Since services can easily be subjected to any of the five senses, the client looks for tangible signposts that he can use as a basis for an evaluation. The perceived quality of a service depends on two variables of expectation and perception; both of which are of considerable importance since many of the factors which impact on these variables can be controlled or influenced (Gronroos 1982). These factors will be used in the development of value-added orientation later in this study. Facilities management generally involves the non-core business of the organisations, hence with the end user in mind, the facilities management company tries to bundle the services it produces so that they benefit the end user and in the process, provide a competitive advantage to the core business. While doing this, the firm must also bundle its services so that they are differentiated from the services provided by other facilities management firms. The need for the complete understanding of underlying principles of services marketing is even more acute for firms that deal with the non-core aspects of a business. With schools, prisons and the NHS units continuing to acquire trust status, they will become more autonomous in making decisions and this will have a direct impact in the way they want their facilities to be managed and the extent to which facilities management services are procured. The implication of this to facilities management is that the industry must learn to market its services in such a manner that purchasers can realise value for money and be satisfied with what they are buying despite the fact that the product purchased is an intangible.

### **3.11 Summary**

The UK facilities management industry is a relatively young industry that is in its early stages of development. This is one of the reasons why there is no industry wide accepted definition of facilities management, although most of the definitions put different degrees of emphasis on the management of

people, process and the non-core activities of organisations. The increasing legislation from Europe, the continuous growth in complexity of buildings occupied, and increased realisation of the strategic importance of facilities in corporate strategy has resulted to an increase in the importance of the role of the facilities manager. The rapid growth and significant industrial changes taking place in the industry has increased the need for greater market responsiveness. By being more marketing oriented, the organisations within the industry can be better prepared to cope with the changing wants and needs of their customers. This might also help to smooth the worries of many businesses that consider facilities management as lacking an identity, being ill-defined, ever expanding, and confusing (Nutt 1998).

## **CHAPTER FOUR: INTRODUCTION TO MARKETING ORIENTATION**

### **4.0 Introduction**

The key to success in business lies in understanding and providing what customers want and need rather than in focusing on what the firm has to sell (Drucker 1973, Levitt 1960). This involves achieving organisational goals by determining the needs and wants of particular markets and satisfying those needs and wants better than the competition. In order for an organisation to be capable of meeting the above challenge, a marketing orientation approach can be invaluable as espoused in the marketing literature (Slater and Narver 1998, Doyle and Wong 1998).

### **4.1 Definition of Marketing Orientation**

Several conceptual and empirical studies have substantiated the logical benefits of adopting a marketing orientation (Siguaw, Simpson and Baker 1998), with the relationship between marketing orientation and better performance the most frequently touted advantage (Jaworski and Kohli 1993, Narver and Slater 1990, Pitt, Caruana and Berthon 1996, Selnes, Jaworski and Kohli 1996). Despite this, there is still considerable controversy among marketing scholars and practitioners regarding the definition, conceptualisation and implementation of marketing orientation (Fritz 1996, Selnes, Jaworski and Kohli 1997). Frequently, market orientation is used interchangeably with marketing orientation (Slater and Narver 1998). The main difference that has been postulated between the terms is that marketing orientation is seen to be specific to the specific activities of the marketing department or division. Market orientation, on the other hand, highlights the organisation-wide application of the concept (Kohli and Jaworski, 1990, Narver and Slater, 1990,

Shapiro, 1988). In this study, the two terms are used interchangeably because of the practical focus of the work (Webster 1988).

Marketing orientation is an organisation's willingness to adopt the marketing concept as its underlying business philosophy with the goal of satisfying customer needs while meeting organisational objectives (McCarthy and Perreault 1984). The marketing concept holds that the social and economic justification for an organisation's existence is the satisfaction of customer wants and needs while meeting organisational objectives (Crompton and Lamb 1986). Essentially, the marketing concept embeds a business philosophy which suggests that the long-term purpose of the firm is to satisfy customer needs in order to maximise corporate profits (Kohli and Jaworski 1990, Webster 1988). In other words, it is a philosophy that holds that long-term profitability can best be achieved by concentrating and co-ordinating the activities of an organisation towards satisfying the needs of its customers in the various segments of its market. Implicit in this philosophy is a thorough understanding of demand characteristics of particular customer groups and taking steps to satisfy each of them using an appropriate combination of the marketing mix in order to achieve organisational objectives (Kotler 1988).

Marketing orientation is the operationalisation the marketing concept. This manifests itself in different ways depending on the contextual framework, as evidenced by the various definitions of marketing orientation (Kohli and Jaworski 1990, Narver and Slater 1990, Deng and Jack 1994, Greenley 1995, Slater and Narver 1998). A summary of some of definitions of marketing orientation is shown below (table 4.1)

**Table 4.1: Conceptual Comparison of Selected Definitions of the Marketing Orientation Construct**

Author	Definitional Keywords
Lawton and Parasuraman (1980)	Adoption of marketing concept, background of the firm's top management
Foxall (1984)	Adoption of marketing concept by entire organisation
Morris and Paul (1987)	Marketing department, use of consultants and marketing research, planning, product managers, status of marketing, background of management, feedback devices
Canning (1988)	C.E.O's role in marketing, adaptive strategy, market orientated MIS, cost effectiveness. new product development and marketing co-ordination, marketing considered professional, marketing as corporate culture
Deshpande and Webster (1989)	Strategic focus on customer, marketing concept as corporate culture.
Narver and Slater (1990)	Customer orientation, competitor orientation, interfunctional co-ordination, profitability, and long-term focus
Kohli, Jaworski and Kumar (1993)	Market intelligence generation, dissemination and responsiveness
Deng and Jack (1994)	Customer orientation, Competitor orientation, interfunctional co-ordination

adapted from Miles and Arnold (1991)

Regardless of how marketing orientation is defined, there are some discernible features that underpin it. These include the need for market intelligence generation, dissemination, and responsiveness (Kohli and Jaworski 1990),

customer orientation, competitor orientation, and interfunctional co-ordination (Narver and Slater 1990, Jaworski, Kohli and Kumar 1993 Slater and Narver 1998, Greenley 1995). The conceptual and empirical evidence as espoused in the literature fail to stress adequately, the need for the organisation to stay in business to continue satisfying the needs and wants of the customers. It also fails to give a reconciliation of the marketing concept with postmodernism, beyond the fact that the later will affect and is affecting the way we conceive the former. Some of these issues are addressed in this study by looking at the components of marketing orientation in detail below.

## **4.2 Components of Marketing Orientation**

Literature review could not identify any empirical study of marketing orientation in the facilities management industry but after discussions with academics and practitioners, marketing orientation in the facilities management industry is proposed in this study to consist of customer orientation, value-added orientation, interfunctional co-ordination and business maintenance. This stance is partly consistent with popular approaches in the literature in other industries (Greenley 1995, Kohli and Jaworski 1990, Narver and Slater 1990, Caruana et al 1995, Slater and Narver 1998, Doyle and Wong 1998). The proposed components together with those found in other industries are discussed below.

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### **4.2.1 Customer Orientation**

Some marketing practitioners have argued that there is no clear distinction between market orientation and customer orientation, hence the terms can be used interchangeably (Shapiro 1988, Webster 1988). Whereas the two concepts are often perceived to be synonymous, at least from a professional standpoint, they are fundamentally different and cannot therefore be considered to mean the same thing. Customer orientation signifies a custom-focused approach to management, the over-riding thrust being that of satisfying a firm's

customers. While this is a helpful approach to market responsiveness, its main weakness is that it is overly focused on satisfying present customers and insufficiently futuristic as to direct managerial attention to the goal of anticipating future needs of customers.

Putting the customer at the heart of an organisation's product-market definition is effectively the first rule of effective customer-orientation management. Many organisations get into difficulties through an inappropriate vision of customers and their needs (Nwankwo 1995). A market-oriented organisation must be capable of viewing itself through the eyes of its customers and not through its products. Such an organisation should see itself as a customer-satisfying organism and not a product-producing organism. It will consequently need to have a customer-specific definition of its strategic focus in contrast to a product-specific one. A customer-specific definition requires that the organisation to have (Nwankwo 1995):

- ◆ clear ideas about customers and their needs;
- ◆ customer characteristics underpinning the design of the product/market portfolio;
- ◆ specific customer care objectives which crystallise and communicate both customer and management aspirations;
- ◆ feedback systems which permits the organisation to reach its customers and vice versa;
- ◆ effective customer education/information systems;
- ◆ a genuine concern for market pluralism. Customers should not be considered as a monolithic group. There is a need to recognise the heterogeneity of the market place, i.e. the diversity of customer segments and their needs; and
- ◆ a good understanding of the behavioural nature and consequences of consumption.

A typical example of the absence of a customer-oriented attitude can be seen in many organisations involved in the sale of computer equipment. This industry is increasingly being linked to the facilities management industry as the workplace gets increasingly automated. In this complex, high-technology market, industry watchers have often complained that customers are frequently dissatisfied with the services and products they are being offered. Products are known to have functionally failed. Functional failure manifests itself in a number of ways including:

- ◆ incapability of carrying out promised functions;
- ◆ products are difficult to use; and
- ◆ after sales service is hard to come by.

Company workers in this as in many other technology-driven industries, tend generally to cling to stereotypes of what the ideal customer should be, and not the problems of the average individual, that comes in contact with the product being sold. It is alleged that internal criteria of high technology, and ever more sophisticated systems and computer power, tend to take precedence over day to day customer needs (Pierce 1995). These needs include elementary assistance in problem solving, and the need for less cumbersome and less verbose manuals that can be understood by the average person. The most worrying of the problems in the computer supply industry is that the companies do not realise they are the ones with the problem not the customer. It is common to see company employees sneering at the stupidity and lack of understanding and sophistication of their customers, as if they consider the customers at times not to be good enough to own their products. This behaviour indicates that the organisations lack a customer-oriented focus and consequently, customer complaints are not being taken seriously (Pierce 1995).

In customer orientation studies, the dominant paradigm is that the customer-oriented organisation should put the customer's needs and wants before the internal needs of the organisation (Despande, Farley, and Webster 1993, Doyle



1994, Dibb et al 1994, Despande and Farley 1996, Han 1998). The importance of customer focus is acknowledged, not least because it is five times more costly to gain a new customer than to keep an existing one (Marcus 1998, Massnick 1997). Studies across numerous industries have also shown that a five-point increase in customer retention can increase profits by more than 25 percent (Reichheld 1996). Despite this, there should be a number of qualifiers to this strand of argument that insists on always putting the needs and wants of the customer ahead of the organisation. It remains an open question whether customer orientation as espoused in the literature is the best option available to an organisation seeking to create and sustain a competitive advantage. It might be preposterous to seek to maximise customer satisfaction without consideration to the equal imperative of satisfying organisational needs (Edwards 1997). A complete reliance on customer orientation often can lead to incompleteness in business strategy, which leaves the organisation prone to a reactive posture, as opposed to a proactive disposition (Day and Wensley 1988). In reality, marketing practitioners make a compromise between their own objectives and those of the customers (Carson et al 1998) hence, the theoretical over-emphasis on the customer in most marketing literature is highly suspect. The true customer-oriented organisation should not put the needs and wants of the customer above those of the organisation but should try to align them in the same direction. If properly aligned, satisfying the needs and wants of the customer will in turn be satisfying the ultimate needs of the organisation. This alignment must use the customer as the focal point on which decisions and actions are hinged. If the needs of the customer and those of the organisation are properly aligned, there will be little conflict between the needs and expectations of the customer and the organisation. This alignment will also reconcile the long-standing dichotomy between the marketing theorist and practitioner. The latter is usually receptive to efforts to satisfy the needs and wants of customers if they are going to help cut costs or boost sales and ultimately increase profit (Carson et al 1998).

Another important dimension of customer orientation is that, often, efforts are focused on the customer at the end of the consumption chain. This is largely an externally oriented strategic vision of the customer that often fails to acknowledge the existence of those within the organisation (i.e. internal customers). A large amount of implementation failures arising from customer orientation programmes are due to this narrow view (Nwankwo 1995). A consideration of this often neglected customer segment i.e. internal customers, is therefore appropriate and may, in fact, prove to be the important determinant of success in the marketing of services.

#### **4.2.1.1 Internal Customer**

The study of internal customers is anchored within the conceptual domain generally described as internal marketing. Internal marketing issues have been discussed extensively in the marketing literature (Fiske et al 1993, Foreman and Money 1995, Marshall et al 1998). Recently, there has been a renewed interest in the marketing literature in the potential impact of internal marketing on external market place performance (Gronroos 1994, Ballantyne et al 1995, Rafiq and Ahmed 1995, Marshall et al 1998). Internal marketing can be defined as any form of marketing within an organisation which focuses staff attention on the internal activities that need to be changed in order to enhance external market place performance (Ballantyne et al 1995). Generally, it would be difficult for an organisation to do for customers what they cannot do for their staff. It therefore follows that staff should be educated and be inculcated with the philosophy that they should consider the next person to whom their work goes as an internal customer, to whom the marketing concept applies. An internal customer focus implies the following (Iris 1991):

- ◆ the need to understand internal customer's requirements that affect external customer needs and preferences;
- ◆ obtaining information about external customers needs and preferences through internal customers; and

- ♦ creating additional buyer value by increasing internal customer benefits.

In the service sector, the added problems of the distinctive characteristics of services (intangibility, inseparability, heterogeneity, and lack of ownership) must be catered for by using an extended marketing mix to underpin the role of the internal customer (Gronroos 1982, Zeithaml et al 1985, George and Gronroos 1989). The importance of internal marketing cannot be over emphasised since the boundaries between the firm and the market are fluid, with internal exchanges competing with exchanges in the external marketplace. Based on this, it is inappropriate to consider that internal and external exchanges are mutually exclusive. They are at opposite ends of a continuum, and there exist an infinite number of points between the two end points, each representing a unique configuration of exchanges or value creation behaviours (Lusch et al 1992).

Formulating an appropriate internal customer orientation within an organisation might necessitate the following procedures (Pierce 1995):

- ♦ a good definition of customer satisfaction within the organisation, and the development of suitable means of measuring same;
- ♦ the institutionalisation of customer satisfaction data collection and reporting systems;
- ♦ the institutionalisation of internal customer satisfaction measurements into organisational control systems; and
- ♦ the development of methods of analysing and responding effectively to internal customer dissatisfaction and customer complaints without recrimination and victimisation of individuals.

The dimensions of external customer satisfaction are directly linked to internal market issues as shown below (table 4.2).

**Table 4.2: Link between External Customer Satisfaction and Internal Market Issues**

External market issues	Dimensions of customer satisfaction	Internal market issues
Anticipated product/service characteristics	→ Expectations	Anticipated/stereo typed customer preferences and priorities
Product/service capabilities at point-of-sale and in use	→ Perceived delivery of product /service	Internal priorities and criteria compared with external
Disappointed/Disillusionment versus positive outcome with the product/service	→ Confirmation /disconfirmation	Judgements about customers and attitudes affecting future behaviour, role stress and ambiguity
Capacity to cope with and turn around negative feedback	→ Complaining behaviour	Hostility towards complaining customers and rejection leading to antagonism, self-protection and conflict

Source: Pierce (1995)

Despite the possible advantage of implementing a customer satisfaction strategy in organisations such that the needs of both the internal and external customers can be catered for, many organisations are still lacking in this respect. The main causes for the failure of implementation to include inter-alia the following (Pierce 1995):

- ◆ internal politics issues where customer satisfaction measures become part of the internal politics interdepartmentally and interfunctionally;
- ◆ the oversimplification of marketing issues where employees and management make assumptions about the market and about customers that make customer satisfaction issues appear unimportant;
- ◆ the element of fear where employees think asking customers about their satisfaction creates customer complaints and dissatisfaction;
- ◆ the problem of corporate culture where evaluating and using customer satisfaction measurements is believed to be inappropriate;
- ◆ an element of market complacency where people tend to believe they know what customers think and that they have the best products, which is really what matters;
- ◆ the issue of resources/capability where there is a problem in getting the necessary resources to implement the strategy;
- ◆ logistics related problems where the identification and contacting of customers might be as simple and straight forward as might be wished;
- ◆ the problem of financing where the necessary finance is not available as against a situation where the finance is available and the problem is that of implementation;
- ◆ the issue of perceived market drivers where price and technical specifications are believed to be what matters, not customer satisfaction; and
- ◆ the issue of credibility where results of customer satisfaction are taken for granted and simply ignored.

Although internal customer evaluation systems are popular, they are not always easy to implement, since internal customers may have a tendency to report favourably on their colleagues (Hauser et al 1996). When related to the Facilities Management industry, the problems are much more daunting than might be the case in other well-established service industries. The reason is that services on offer are not well defined, the needs and wants of customers are much more varied, and a lot of corporate clients seem somewhat unsure of what to expect from a facilities management organisation. Such a scenario can also result in the expectations of different clients being radically different, hence the needs of the internal customer will have to change with the changing needs of the client. Despite this, the difficulty in implementing internal marketing should not take all the attention of the organisation to the detriment of the external customer. The internal customer wants and needs should be weighted accordingly, and given a priority only if they have a direct bearing on external customer satisfaction. An over emphasis on the internal customer to the detriment of the external customer might lead to a production orientation which might not necessarily translate to a sustainable competitive advantage in the industry.

#### **4.2.2 Competitor Orientation**

Competitor intelligence is one of the exogenous variables affecting marketing orientation. This perhaps explains why Kohli and Jaworski (1990) define marketing orientation as the generation and dissemination of market intelligence about customer's present and future needs, and exogenous variables that influence these needs. In the UK, the flagship policy of the government over the past decade has been market liberalisation and deregulation. This has resulted to sectors of the facilities industry that were previously protected being exposed to competition for the first time. Increased outsourcing has increased the level of activity in the industry with competition increasing from within and without the industry. Competitors now cross sector boundaries with increasing ease. Typical examples include the blurring

distinction between banks, insurance companies, and building societies, the situation where garages are selling groceries and supermarkets are selling petrol (Cox 1997).

Britain became a member of the European Union in 1973 and with the coming into effect of the single Market in 1993, it effectively became part of a larger economy. Britain's signing of the GATT agreement in 1993 facilitated entrance into the British Facilities management market by foreign contractors and firms notably from the USA. This is increasing the relatively low level of competition in the industry.

Competitor orientation involves an organisation's understanding of short-term strengths and weaknesses, and long-term capabilities and strategies of both the key current and the key potential competitors (Aaker 1988, Day and Wensley 1988, Porter 1980). Information systems of many organisations are usually designed to satisfy financial reporting requirements. They often ignore marketing needs, hence sales are frequently reported using classifications designed for the benefit and convenience of the accounting department. This might not meet the needs of marketing by way of providing useful information that can be used for competitive analysis (Canning 1988). Important information for the analysis of customers and the activities of competitors is often lost. The understanding of principal current and potential competitors must include the entire set of technologies capable of satisfying the current and expected needs of the seller's target buyers (Levitt 1960).

The literature on market practices and environmental scanning activities of new and/or small firms suggest that although structured surveys of customer or competitors can be used, they are often of limited value (for example Hills and Narayana 1989). Unstructured and informal means of obtaining information about these groups are used more often and valued more highly. The preferred means of obtaining information about competitors by small/ or entrepreneurial firms is networking with customers and business associates (Peters and Brush

1993). The advent of the information superhighway sweeping the corporate world means that most major competitors have access to the same key information. The difference between success and failure might no longer be in access to information, but with the ability to use information that already exists in the public domain. The formal and informal dissemination of information is differentiated by their degree of verifiability and spontaneity. Spontaneity refers to whether the dissemination of information was planned ahead of time, while verifiability refers to the ability of a third party to substantiate that certain information was transmitted by a sender to a receiver in the course of a dissemination event (Elliot and Kohli 1996). Deshpande and Zaltman (1987) concluded that formal market research is a small and sometimes non-existent part of information collection and utilisation activity in industrial product marketing decisions. This might be a pointer to the fact that competitor orientation might not be as important in some industries vis-à-vis the marketing activities of firms.

The importance of competitor orientation to a business can be moderated by environmental factors such as the number of providers of similar services. In a market situation where demand supersedes supply, as is the case in certain monopolistic markets, the profitability of a company or organisation might be unrelated to its level of marketing orientation. Such anomalies can influence data collected, and affect the outcome of any study of the relationship between marketing orientation and profitability (Kohli and Jaworski 1990). In these situations, competitor orientation might be less important to overall success of the organisation.

Competition is important in many industries in the creation of better products and industrial maturity. This is the case because monopolies in many markets have in the past been related to market failure conditions. These conditions (Nwankwo and Richardson 1996) are chiefly responsible for high entry and exit barriers in many markets and thus the attendant superficial attention to competitive mobility and threats. However, following the ascendancy of the



'New Right' and their influence on the political economy of the developed world (for example Thatcher in the UK and Reagan in the USA), market-driven revolutionary measures have largely whittled down the effects of market failure and the structural protection that monopolistic industries enjoy are disappearing (Nwankwo and Montanheiro 1997). Competitor orientation has therefore become a reality in most industrial sectors.

However, being too competitor oriented in the marketing efforts of some organisations might not yield the desired results. Competitor orientation can cause an organisation to develop products and services not because of a tangible desire to satisfy the needs and wants of customers, but as a counter measure against the actions of its competitors. If competitor orientation is considered as part of environmental scanning, to determine the factors that can affect the express, latent, present and future needs of customers, it can be beneficial to an organisation. For organisations to create and maintain a competitive advantage, they should consider competition as part of the environment that must be scanned. The organisation should also look beyond the competition to non-competitors in different industries with a view to learning how they serve their customers adequately and provide superior value. Enabling factors and good practices in other industries can be learnt and adapted to assist the organisation in adequately serving its own customers. The reason for this is that a myopic industry focused attention alone can not lead to sustainable superior performance. It should be underpinned by generic benchmarking where best practices in other industries are analysed to identify significant enablers that are transferable. It is worthwhile mentioning that nobody ever became a market leader by emulating best practice in their sector (Hamal and Prahalad 1994).

In the past, most organisations thought they could effectively undertake most of their facilities management activities in-house. Market testing and increased outsourcing of non-core activities in the past years has greatly increased market activity in the facilities management industry. The industry is rapidly

growing and in any such growth-oriented context, competitive pressures are not too severe.

Based on the above considerations, it is proposed in this study that being competitor oriented in the facilities management industry may assist in the generation of useful market intelligence but, at present, might have little impact on the marketing orientation stances of organisations. This proposition is radically different from dominant views in the literature (Gray et al 1998, Greenley 1995, Caruana et al 1995, Jaworski, Kohli and Kumar (1993), Naver and Slater 1990). All these studies considered competitor orientation to be pivotal in gauging marketing orientation stances of organisations. In a recent study within the Higher Education sector, Sui and Wilson (1998) conceptualised marketing orientation without competitor orientation, although this was not empirically tested. The above leads to the following hypothesis, that will be empirically tested in the next chapter.

**Hypothesis One: Competitor Orientation at present has no impact on the marketing orientation stance of organisations in the facilities management industry.**

Whereas the lack of competitor orientation may not significantly affect the marketing orientation stance of firms in the facilities management industry, management should not necessarily become myopic as to regard it as a non-issue. With the maturity of the industry and a reduction in the present rate of growth, competitor orientation will become increasingly important. Concerted efforts must be made on a continuous basis by managers, to ensure the maintenance of their business even in the face of the limited but nonetheless growing competition in the industry.

### **4.2.3 Business Maintenance**

The facilities management industry in the UK is developing in an environment where, demand trends generally are changing. There is a shift towards equity-based investments, steady growth in self employment, increasing home and share ownership, changes in nature and number of households, an ageing population, a growing number of early retirees, and increasing customer literacy and awareness (Egan and Shipley 1995). These changes affect almost every corporate service organisation directly or indirectly, hence the facilities management industry must tailor their customer satisfaction strategies to cater for the effects of these changes in the short, medium and long-term.

For an organisation to enjoy a sustainable growth, it must be profitable and also have a long-term focus in its marketing activities. Despite ample theoretical justification for the inclusion of long-term focus and profitability as components of marketing orientation, empirical evidence fails to support their inclusion (Narver and Slater 1990, Felton 1959, McNamara 1972). This failure might be because they are viewed as two components instead of one. In this study, a totally new approach is taken where profit orientation and long-term focus are not treated individually. Rather, they are combined to form a single decision criterion called 'Business Maintenance', which then can be treated as a component of marketing orientation. Thematic justification for this approach is given below.

Levitt (1969) vehemently opposed the idea of profitability being a component of market orientation. He likens it to saying that 'the goal of human life is eating'. Profitability is a consequence of marketing orientation but it is conceptually so closely related to marketing orientation, that it can be considered as a constituent part of it (Narver and Slater 1990). Marketing orientation should have an element of profit orientation for the organisation to survive in the long-term. There is the possibility that profit orientation performs

a dual role, as a component, and as a consequence of marketing orientation. Efforts to ensure the profitability of an organisation over time, and its effort for long-term survival, are so interrelated that in practice by undertaking one, the organisation also concurrently undertakes some aspects of the other.

Many definitions of marketing orientation fail to emphasise the long-term aspects of marketing (Mercer 1998). The central aim of marketing is to establish, maintain and enhance long-term customer relationships at a profit (Gronroos 1990). It therefore follows that marketing orientation has to be long-term focused, both in relation to profits, and in implementation of the behavioural components (Felton 1959, Houston 1986, Kohli and Jaworski 1990). This is important because the main problems for most organisations are not the result of incompetent management only, but are also caused by a confusion of objectives (Mercer 1997a, 1998a, 1998c). In order to prevent competitors from eroding any superior buyer value, a marketing oriented company must constantly discover and implement additional value for its customers, which necessitates a range of appropriate tactics and investments, hence long-term investment is implicit in any marketing orientation culture (Anderson 1982).

An organisation cannot be adequately marketing oriented without preparing itself to satisfy not only the present needs of the customer, but also the future needs. For the organisation to satisfy the future needs of the customer, the organisation must be in existence in the future. In order to be in existence in the future, the organisation must be long-term focused in its marketing activities. For an organisation to survive in the long-term, it must also be profitable. Any attempt at being long-term focused must be underpinned by a thorough analysis of profitability issues (Dunn et al 1986). This shows that being long-term focused, is a necessary but not a sufficient requirement for survival. The inter-relationship between long-term focus and profitability is recognised by Kotler and Andreason (1987). They argue that survival is analogous to profitability when non-profit organisations are considered. The

proposition in this study that long-term focus and profit orientation are important in the marketing orientation stances of organisations and they can be combined to form the component 'Business Maintenance' is partly in agreement with a recent work by Gray et al (1998). While working in New Zealand, they found that profit orientation is a component of marketing orientation in organisations there. The dimensions of business maintenance combines the two main processes of an organisation i.e. the conventional corporate strategy process that involves optimising performance in the short term, and a process of producing robust long-term plans and focus. The prima facie ambiguity of combining these seemingly two opposing processes into one component can be resolved at the operational level by separating them at that level as recommended by Mercer (1998).

The scale items used to measure business maintenance dealt with the following points (see table 4.3):

**Table 4.3: Scale Items of Business Maintenance**

<b>Business maintenance</b>
Long-term implication of actions analysed
Importance of client retention
Importance of long-term issues
Discussions of long-term plans
Analysis of profitability of market segments/clients
Access to impact on profits of actions in the market
Division of organisation into cost centres for ease of analysis

#### **4.2.4 Interfunctional Co-ordination**

Divisions and functions within an organisation are bound to have conflicts from time to time, and this might be symptomatic of distinctions that might exist in culture and modes of operation. Shapiro (1988) advocates an effective

communication and co-ordination across departmental barriers, as a way to become marketing oriented. Strategic and tactical moves or counter-moves in response to the market should be made interfunctionally and interdivisionally so that divisions and functions can make well co-ordinated decisions. Interfunctional co-ordination requires that the marketing or any other advocacy department must be extremely sensitive and responsive to the perceptions and needs of all other departments in the business (Anderson 1982). Interfunctional co-ordination requires information on customers and competitors to be available in all departments, not just in the marketing department, in order to create superior value for the customers. An alignment of functional area incentives and the creation of interfunctional dependency so that each area perceives its own advantages in co-operating with others is important. Reward of functional areas for their contribution in creating superior customer value would lead to full participation hence, interfunctional co-ordination (Wind and Robertson 1983). It involves the sharing of customer information amongst functions and departments, for marketing orientation can only be achieved by disseminating information about customers throughout an organisation. It involves formulating strategies and tactics to satisfy market needs interfunctionally, and by achieving a sense of company-wide commitment to these strategies and tactics (Shapiro 1988).

The level of interdepartmental co-ordination depends amongst other things, on the level of harmony within and between the functions and departments. A salient factor that affects interfunctional co-ordination is interdepartmental conflict. Interdepartmental conflict is likely to inhibit communication across departments, hence inhibiting the dissemination of market intelligence and also inhibiting a co-ordinated response to market needs derived from the little market intelligence disseminated. It therefore acts as an inhibitor in a dual capacity. In the dissemination of market intelligence within and amongst functions and departments, although a hierarchical method can be used, horizontal communication of market intelligence is also useful. Horizontal communication is the lateral flow that occurs both within and between

departments and serves to co-ordinate people and departments to facilitate the attainment of overall organisational goals (Daft and Steers 1985).

Generally, Interfunctional co-ordination is accepted as a component of marketing orientation (Slater and Narver 1998, Caruana et al 1995 Greenley 1995). In the formulation of a marketing orientation in this study, it is also considered as a component. The aim of interfunctional co-ordination should be to add value to the customer at the end of the day.

#### **4.2.5 Value Added Orientation**

The term 'added value' may be ubiquitous in marketing teaching and practice, yet a student seeking clarification of the concept and term, cannot easily find it by looking it up in the index of marketing textbooks (Wood 1996). Kinnear and Bernhardt (1986) define 'added value' as the change in the product characteristics from the time the ingredients enter the organisation, to the time the product is sold by the organisation. Wolfe (1993) asserts that added value can be tangible or intangible, and can relate to the core product itself, to essential related services, or to the image attached to the product, the suppliers or its users.

The focus of value marketing is for the customer to perceive that 'they' are getting 'more value for less money'. Value-added orientation involves an active and proactive effort in increasing the value perception of an organisation's products or services, by increasing perceived benefits to clients, or decreasing perceived costs, that customers ascribe to the organisation's products. This might involve actively engaging in the analysis of how customers value products and services, by quantitative/qualitative analysis of the importance attached to various attributes by customers, and adjusting the organisational emphasis accordingly to reflect same. It also involves actively engaging in differentiating the products or services of the organisation, from those of the competition. Techniques such as product positioning, value analysis, customer

value mapping and keeping the customer informed might be used. At the operational level, informing customers helps reduce their apprehension, and also decrease their perceived waiting time before a service is provided (Sarel and Marmostein 1998). Product/service differentiation also has a strong bearing on 'practitioner marketing', which is characterised by attempts to 'persuade' customers away from competitors by innovative variety of means (Carson et al 1998). Proactive management of customer expectation for it not to supersede what can be reasonably provided by the organisation, nor so low as for the customer to inadvertently dismiss the organisation as inconsequential is essential for the value-added oriented organisation. This is important because understanding customers' expectations is a prerequisite for delivering superior service (Parasuraman 1998). Management of customer expectations involves the following (Berry et al 1991):

- ◆ a realistic picture of the services is portrayed to the customer;
- ◆ a premium is placed on company reliability;
- ◆ effective communications with customers to take place;
- ◆ employees excel during service performance and exceed customers' expectations; and
- ◆ the recovery situation is exploited to the full.

In a study by Pitt and Jeantrout (1994), it was found that in service firms in the UK, customer expectation management had a significant positive correlation with overall customer satisfaction, and also relative market share, although a strong relationship was not found between customer expectation management, and relative profitability.

The value of a seller's offering to a buyer is the difference between what the buyer perceives as the total benefits from the product, and the total cost of acquisition and use costs (Zeithaml 1988). The value to the buyer would be increased, if the seller can increase the perceived benefits, or decrease the total perceived acquisition and use cost. Efforts to increase perceived benefits or decrease perceived costs should be targeted along the entire value chain.



Customer orientation is the sufficient understanding of target buyers to be able to create superior value for them continuously (Levitt 1980). This has to be extended to include the buyers' entire value chain (Day and Wensley 1988), not only as it is today, but also, as it will evolve over time. Increased customer awareness has increased their expectations, and it is clear that they enjoy a broader and deeper choice than any time in the past. Reflecting on the implication of these trends, Vandermerwe (1993) holds that on the threshold of the third millennium, despite earlier fears that standardisation and globalisation will 'massify' the human race still further, the individual has triumphed to become more 'significant'.

Value-added orientation requires an organisation to be proactively involved in identifying the benefits that customers in a target market segment desire, and how they value products or services. The main steps in customer value analysis include (Johnson and Chvala 1996):

- ◆ identifying the main attributes that customers want. This includes investigating from customers what they want in terms of functions and performance levels, in choosing between various products and suppliers;
- ◆ assess the quantitative importance of the different attributes. This involves requiring customers to rate and rank different attributes;
- ◆ assess the organisation's performance on the various customer values; This involves asking customers to rate the organisation's performance on each attribute;
- ◆ examining how customers in a specific segment rate the organisation's performance on an attribute-by-attribute basis and try to improve and excel if possible, on all attributes;
- ◆ measure the importance attached by customers to all the benefits;
- ◆ monitor customer values over time since customer values change over time due to market turbulence and technological turbulence;
- ◆ compute benefit spreads between services; and
- ◆ institute strategies to improve where the organisation is weak.

The above aspects might need competitor information hence showing that if competitor information is utilised properly, it can be very useful to the organisation.

Value-added orientation complements the other components of marketing orientation by encompassing, amongst others, the following issues:

- ◆ proactiveness in measuring and weighting importance given by customers to various attributes of the services/products of the organisation;
- ◆ active analysis of the value chain to create superior customer value;
- ◆ active management of customer expectations;
- ◆ product/service differentiation;
- ◆ value impression creation by concentrating on the form and not just the content of services/products; and
- ◆ streamlining of services by branding and packaging.

Value-added orientation helps to create added value to the end user and takes the whole distribution chain and the environment into consideration. This conceptualisation is consistent with a recent study by Lado et al (1998) who considered marketing orientation to consist of nine constituent parts namely:

- ◆ analysis of the final client;
- ◆ analysis of the distributors;
- ◆ analysis of the competitors;
- ◆ analysis of the environment;
- ◆ interfunctional co-ordination;
- ◆ strategic actions directed towards the final client;
- ◆ strategic actions directed towards the distributors;
- ◆ strategic actions directed towards the competitors; and
- ◆ strategic actions directed towards the environment.

The importance of factoring in the whole value chain when considering marketing orientation comes to focus because, there is a tangible relationship between the various stakeholders within such a chain. A typical example is the

fact that the greater the supplier's marketing orientation, the greater the distributor's marketing orientation (Siguaw, Simpson and Baker 1998).

The value-added oriented organisation is different from the competitor-oriented organisation in many respects. The value-added oriented organisation actively manages customer expectation. Such an emphasis is not necessarily present in the competitor-oriented organisation. The value-added oriented organisation focuses on the customer and tries to create value impression of its services on the customer by using various techniques such as product mix/recompositions, product and service branding/packing to increase customer confidence. These characteristics are not necessarily present in the competitor-oriented organisation. The value-added oriented organisation while focusing on the customer, pays particular attention not only to the content of services and products provided, but also to the form/style of the product. This is not a necessary condition for a competitor-oriented organisation. The above shows that although there is an element of intersection between value-added orientation and competitor orientation, they are related but different orientations.

#### **4.2.5.1 Value-added Orientation and Postmodernism**

The marketing literature in recent years has witnessed a resurgence of interest in the postmodernist culture which the proponents claim is affecting and will continue to affect marketing as we know it (Brown 1993a and b, Firat and Venkatesh 1995, Firat and Venkatesh 1993). The popular view among postmodernist researchers is that the marketing concept needs to be fundamentally revisited and radically revised to take account of the paradoxes emerging from the evolving environment. Nevertheless, a thorough literature search could not reveal any attempt to unify the marketing concept and postmodernism. This is important because the market place might be moving from the modernist to the postmodernist without managers realising.

Perhaps at the present level of development of the literature, it might be almost impossible, to formulate a Grand Unified Theory (GUT) that fully unifies the marketing concept and postmodernism. Nevertheless, it might be possible to make progress by adopting partial theories. This will involve codifying individual components of marketing orientation to take account of the postmodernist culture, even if the whole of the marketing concept cannot yet be unified with postmodernism. In this section, an attempt will be made to unify value-added orientation (which is hypothesised to be a component of market orientation) with postmodernism since the postmodernist culture is already on us and it can no longer be neglected.

In order to understand the postmodern culture, it might be useful to define modernism. Modernism refers to the philosophical and socio-cultural ideas and conditions marking the period in Western history, from the late sixteenth century up to the present. This period signifies the following conditions (Firat and Venkatesh 1995):

- ◆ the rule of reason and the establishment of rational order;
- ◆ the emergence of the cognitive subject;
- ◆ the rise of science and an emphasis on material progress through the application of scientific technologies;
- ◆ realism, representation, and the unity of purpose in art and architecture
- ◆ the emergence of industrial capitalism; and
- ◆ the separation of the sphere of production, which is institutionally controlled and public, from the sphere of consumption, which is domestic and private.

In the literature on postmodernism, there is often intricate and confusing discussion on the meaning and domain of the postmodernist culture. The postmodernist position is that the world is socially constructed and subjective, the observer is part of the observed, and science is driven by human interest

(Thomas 1997). The postmodernist culture is also characterised by the following conditions (Firat and Venkatesh 1993):

- ◆ hyperreality;
- ◆ fragmentation;
- ◆ reversal of consumption and production;
- ◆ decentring of the subject; and
- ◆ paradoxical juxtapositions (of opposites).

The postmodernist culture apart from having the above conditions is also characterised with the following (Brown 1993a and b):

- ◆ pluralism as the dominant approach to all relationships;
- ◆ the acceptance of difference;
- ◆ the readiness for living a perpetual present;
- ◆ an emphasis on form/style; and
- ◆ greater acceptance of or resignation to a state or states of disorder and chaos.

The postmodern culture assumes that mass markets are replaced by micro markets and smaller market segments that are increasingly homogeneous in character. Increasing global competition, combined with rapid technological change, flexible manufacturing systems, time data analysis, and increased communication; makes possible the customisation of individual products, hence there is an increase in product and service offerings and categories. This in turn affects brand loyalty, as the new individualism becomes more significant, and buyers become more unpredictable. Value-added orientation requires that the organisation consider that its long-term survival might depend on the unique characteristics of the services it offers. This emphasis on differentiation fits in well with the requirement of the postmodernist culture.

The value-added oriented organisation analyses how customers rate its services, and try to make customers to give the highest rating to them. This

might be very important particular in the scenario involving hyper-reality, where customers might want to enjoy a simulated situation than the real issue is possible. Typical examples of situations where customers might opt for a simulated situation in which the past, present and future can all be simulated in a perpetual present, include Disneyland, Disneyworld, and EuroDisney. Marketing in such a situation requires great emphasis on trying to understand how customers rate services as required by value-added orientation.

Fragmentation and loss of commitment on the part of the customer are characteristic of the postmodernist culture. Contemporary consumers are generally not committed to a single project, product, or service, and they have an affinity not to conform to any unified, consistent, centre field idea or system (Lyotard 1992). In such a situation, making sure that customers give a high rating to services and products being offered by an organisation should be the central theme of the organisation. This might be achieved by branding/packaging and promoting services and products offered, to increase customer confidence. Streamlining the choice of services by offering an entire line of services for different customers can also be useful since markets are generally fragmented and made of submarkets. These aspects of branding/packaging, streamlining choice of services to target fragmented and submarkets, are behavioural aspects of a value-added oriented organisation, and these synchronise with the postmodernist culture.

The postmodernist culture places great emphasis on form/style as against content only. This characteristic of postmodernism is catered for by the value-added oriented organisation, by using product/service mix/recompositions to create value impression on customers. By actively promoting the high end of its services, the value-added oriented organisation hopes to create a value impression of the less glamorous aspects of its other services and products. Branding/packaging to improve form/style are characteristic of the value-added oriented organisation.

The postmodernist culture is characterised by a greater acceptance of or resignation to a state or states of disorder and chaos (Brown 1993a and b). This characteristic is accommodated by the value-added oriented organisation. The value-added oriented organisation accepts that the most basic law of thermodynamics which states that “entropy (state of disorderliness) increases with time”, affects the physical world and also marketing. Due to the fact that crises and disorderliness are more natural than order, the organisation must constantly adapt and actively manage the changing expectations of its customers.

The above discussion shows that the behavioural characteristics embedded in value-added orientation i.e. product differentiation, customer expectation management, emphasis on form, and value impression creation are also embedded in the postmodernist culture. If value-added orientation later qualifies from empirical evidence to be a component of marketing orientation, then it forms a significant bridge between marketing orientation and postmodernism. This will be the first theoretical bridge in the literature between the two phenomena on which future studies can build. Based on strategies of value-added marketing advised by Berry (1987), discussion with managers, and other considerations of the contemporary market place as acknowledged by postmodernists, questions were developed to measure value-added orientation. The level of value-added orientation of the organisations in the sample frame was measured on a five point Likert scale. The questions to measure value-added orientation are summarised as shown below (table 4.4).

**Table 4. 4: Scale Items of Value-added Orientation**

	<u>Questions Depicting a Characteristic of Value-added Orientation</u>
1	We always inform clients about the differences between our services and other services
2	We believe our long-term survival depends on the recognition of the uniqueness of our services
3	We try to understand how our customers rate the value of all our services
4	Great emphasis is put on making customers give the highest rating to our products
5	We brand/package and promote our services to increase customer confidence in them
6	We streamline the choice of our services by offering an entire line of services for different customers e.g. central gov't, local authorities, NHS, etc.
7	Product mix/recompositions is used to create value impressions on clients
8	We manage customer expectation of our services for it not to go higher than we can provide
9	We promote actively the high end of our services which in turn enhance the quality impressions of the less glamorous aspects of our services



The facilities management industry operates in the boundary conditions of relative youth and like other industries, in the intersection of the modernist and postmodernist cultures. In this industry, the present study considers competitor orientation not to be significant in the marketing orientation stances of organisations. The customer and the organisation itself are considered the main focus of the marketing activity. Satisfying the customer but with the proviso that the organisation is profitable and survives in the long-term are fundamental in the strategies of organisations in creating and sustaining a competitive advantage. This leads to the postulation of the following hypothesis which will be tested in the next chapter

**Hypothesis Two: Marketing Orientation in the facilities management industry is made up of 3 behavioural components namely; customer orientation, interfunctional co-ordination, and value-added orientation, and one decision criterion, namely; business maintenance.**

#### **4.3 Entrepreneurial Orientation**

The relationship between marketing orientation and innovation is well discussed in the literature (Slater and Narver 1998, Hurley and Hult 1998, Han et al 1998). Marketing orientation can be considered as a form of innovative behaviour, since it involves doing something new and different, in response to market conditions (Zaltman et al 1973). Marketing orientation involves the attempt to be better, and also different, from the competitors and this can be achieved through innovation, hence marketing orientation is logically intertwined with innovation. A market oriented culture can achieve maximum effectiveness only if it is complemented by a spirit of entrepreneurship and an appropriate organisational climate, namely; structures, processes, and incentives for operationalising cultural values (Deshpande and Webster 1989). This must include the ability to learn faster than competitors in order to gain a sustainable competitive advantage (DeGeus 1988, Dickson 1992).

A culture that values entrepreneurship and innovation provides the environment in which learning from exploration and experimentation is most likely to take place (Quinn 1985, Sykes and Block 1989). Marketing orientation with its focus on understanding latent needs of customers is inherently entrepreneurial, although the entrepreneurial values need to be explicit (Narver and Slater 1995). In the facilities management industry, where the industrial boundaries are not yet well defined, and the nature of products/services traded are not well established, marketing orientation and entrepreneurial orientation might become conceptually very related and worth investigating. In such a dynamic market, continuous or periodic innovation and reorganisation which are entrepreneurial traits are common (Hurley and Hult 1998).

#### **4.3.1 Definition of Entrepreneurial Orientation**

Entrepreneurial orientation is the propensity of a company's top management to take calculated risks, to be innovative, and to demonstrate proactiveness (Morris and Paul 1987). Entrepreneurial cultures are often characterised as (Slater and Narver 1995):

- ◆ valuing traits such as high tolerance for risks;
- ◆ proactiveness;
- ◆ receptiveness to innovation; and
- ◆ active resistance to bureaucracy.

A fundamental entrepreneurial activity is not only to create products ahead of competitors, but also to create them ahead of the recognition of an explicit need by customers, by focusing on the customers' latent needs (Hamel and Prahalad 1991). This characteristic of entrepreneurial activity is fundamentally one of the corner stones of the marketing concept. Entrepreneurial values support the creation of new businesses within the existing business and the renewal or revival of on-going businesses that have become stagnant, or in

need of transformation (Schendel 1990). Entrepreneurship is the parent of innovation, and it serves as the innovative change agent that moves organisations and society forward to achieve desired objectives. Lack of entrepreneurship would result to business and society becoming neither dynamic nor adaptive, thereby resulting in stagnation (Meyers 1986, Khandwalla 1977). In this era of increasingly volatile and sometimes hostile external environments, marketers have been criticised for not adopting a more entrepreneurial perspective. Past attempts to define entrepreneurial orientation include, (see table 4.6)

**Table 4.5: Conceptual Comparison of Selected Definitions of the Entrepreneurial Orientation Construct**

Author	Definitional Keywords
McClelland (1976)	Innovation, need to achieve, risk accepting, proactive
Khandwalia (1977)	Financial innovation, proactive, pragmatic
Shapiro and Sokol (1982)	Proactive, initiator management, decentralised, rewards to risk-takers
Miller and Friesen (1983)	Aggressiveness, innovative new products, novel solutions, emphasis on research and development
Foxhall (1984)	Opportunity seeking, control of external parties for own gain
Ginsberg (1985)	Aggressive, seek novel solutions, innovative, new products.
Morris and Paul (1987)	New product introductions, innovative production and logistics, risk taking, aggressive, seek novel solutions, research and development emphasis, active opportunity scans, bold, growth oriented, pragmatic, compromising, charismatic leaders
Covin and Slevin (1989)	Innovative, aggressive, proactive

adapted from Miles and Arnold (1991)

#### 4.3.2 Measurement of Entrepreneurial Orientation

Marketing scholars and practitioners have attempted in the past to measure entrepreneurial orientation (Ginsberg 1985, Miller and Friesen 1983, Khandwalla 1977). Covin and Slevin (1989) extended Miller and Friesen (1983) and Khandwalla's (1977) findings by adding the propensity to seek high risk/high return projects to their definitions, and came up with a construct that purports to measure entrepreneurial orientation. Scale items therefore have

been developed which claim to measure entrepreneurial orientation, with different levels of reliability (Ginsberg 1985; Morris & Paul, 1987; Covin & Slevin, 1989). Those developed by Covin and Slevin (1989) have a substantial history of theoretical support. Ginsberg's entrepreneurial orientation scale exhibited a coefficient alpha of 0.755, while Covin and Slevin (1989) developed a nine-item scale to measure a firm's degree of entrepreneurial orientation which exhibited a coefficient alpha of 0.87. The entrepreneurial orientation scale used in this study is based on that of Morris and Paul (1987) and Covin and Slevin (1989).

#### **4.3.3 Hypothesis Linking Marketing Orientation and Entrepreneurial Orientation**

A firm's business orientation consists of those underlying philosophies that determine the nature and scope of its activities and plans (Peterson 1989). Marketing orientation implies that a firm should focus on its customers, while an entrepreneurial orientation suggest that organisations must constantly seek to exploit the dynamics of their macro and task environments. This implies that an entrepreneurial orientation provides an excellent basis for the appropriate strategic response to organisational crises, caused by environmental turbulence (Khandwalla 1977). Marketing orientation and entrepreneurial orientation are interrelated because they both provide strategic responses to environmental uncertainty (Morris and Paul 1987). Innovation is a central theme in the entrepreneurial construct, and it is also logically aligned with marketing orientation, since to be better than the competition as required by marketing orientation, an organisation needs to be innovative (Liu 1996). Successful innovation is the product of a marketing oriented culture coupled with entrepreneurial values (Slater 1997).

Contingency theory offers a theoretical justification for the relationships between constructs (Caruana et al 1995). Burrell and Morgan (1979) argue that there are two major types of congruence across levels in an organisation.

The first postulates that effectiveness of an organisation depends on the congruence between elements of the organisational subsystem and the demands of the environment (macro congruence). The second requires the congruence of these subsystem amongst one another (micro congruence). These dual aspects of congruence seem to link the organisation and the environment and creates a situation where marketing orientation and entrepreneurial orientation can be used to create competitive advantage for an organisation.

There have been some studies seeking to determine the relationship between marketing orientation and entrepreneurial organisation in other industries (Murray, 1981; Webster, 1981, Zelthaml and Zelthaml, 1984). As stated above, the facilities management industry is involved with products that do not yet have well defined industrial standards. Boundaries of the industry are not well defined, hence the organisations have to be far more entrepreneurial in their marketing efforts and take more risks into new areas than organisations within well established industries. The industry neither mastered its environment nor had enough time to develop a culture within the environment in which to operate.

The environment of a firm is typically defined as everything outside the organisation. This includes the knowledge base it must draw upon, the nature of its products, customers and competitors, its geographic setting, the economic, political and even meteorological climate in which it must operate (Mintzberg 1979). A new industry can develop from scratch, or it can develop from a spin-off from existing industries to satisfy, in a better manner, the needs and wants of customers. It would face stiff competition from these industries and from new entrants. External forces will force internal adjustments, and to deal with these changes, organisations will have to be more entrepreneurial in their marketing efforts. Despite the above connection between marketing orientation and entrepreneurial orientation, there is still no consensus on whether marketing orientation and entrepreneurial orientation are one and the same construct, or two different constructs.

#### 4.4 Criticisms of Marketing Orientation

Watzke and Mindak (1987) state that the marketing concept despite being generally accepted by the private business, has encountered a persistent reluctance in the public sector, to its use in everyday managerial processes. The reasons for this reluctance, include the following:

- ◆ associating marketing only with profit or some similar measure of effectiveness;
- ◆ identifying marketing only with products, packaged goods, and commercial services;
- ◆ confusing marketing with advertising and/or selling, with attendant negative connotations; and
- ◆ operating in environments more complex than that of a typical commercial firm.

The above characterisation seems to be gradually changing in the UK. An increasing number of public-sector organisations are demonstrating that the objectives of customer orientation, are no longer the exclusive preserve of the private sector (Nwankwo and Richardson 1994a)

Some critics (e.g. Gerken 1990) have suggested that firms should abandon marketing orientation as a guiding principle, while others claim that there is a danger of staying too close to the customer (Bower and Christensen 1995). Houston (1986) concludes that under some circumstances, marketing orientation might not be suitable, and the additional costs incurred by an organisation in maintaining this customer focus, might not be warranted. Such conditions were summarised by Kohli and Jaworski (1990) as follows:

- ◆ a market situation where there is limited competition;
- ◆ in a booming economy;
- ◆ in a technologically turbulent industry; and
- ◆ in stable market preferences

According to Bennett and Cooper (1989), any business strategy that is sole market-oriented is only a partial model, because in ignoring the existing competencies of the firm, there is little or no guarantee of synergy. The assessment of market information as required by the market orientation concept, cannot be undertaken successfully, without factoring-in company objectives, hence reinforcing the notion that market orientation is only a partial model (Kaldor 1986). The author believes that even if marketing orientation is a partial model, in so far as it is positively related to overall performance, it should be encouraged. This weakness can be resolved by reconceptualising marketing orientation to include the profitability and long-term survival of the firm as done in this study.

Marketing orientation puts a great emphasis on the importance of market research. This must be complimented with logical deduction and intuition. There is always the possibility that customers may not know what they really need or want. In this situation, customer education might become paramount in the communication process, though an excess of this seems to be more in the direction of sales orientation. The fact that other factors affect customer wants and needs such as government action, economic pressures, overall market structure and competitive actions, tends to mitigate against the extreme importance of customers. However, when a marketing oriented organisation investigates the latent needs of the customer, and also undertakes environmental scanning, such concerns are considered. The new component of value-added orientation as conceptualised in this study takes these into consideration.

One of the main criticisms of the marketing concept is that it is not very easy to implement. This difficulty is not unique to marketing orientation, but might be associated with in many philosophies that can result to a sustainable competitive advantage. If a concept is easily implemented, then any competitive advantage it brings can easily be eroded by others implementing it.



Since the causal ambiguity between marketing orientation and improved performance has been settled by many studies (Fritz 1996, Narver and Slater 1990, Doyle and Wong 1998), one of the points relating to the strength of the marketing concept in creating a sustainable competitive advantage, might the implementation difficulties.

Some of the main criticisms of marketing orientation as a business strategy as elucidated by Alan and Tse (1995) and others, can be summarised as follows:

- ◆ marketing orientation puts little emphasis on the creative ability of an organisation as an input in market strategy (Kaldor 1971);
- ◆ the sacrosanct rule advocated by marketing orientation that the needs and wants of the customer must be satisfied, can be flawed in situations where the customers do not know what they really want, as can be aptly exemplified by the doctor-patient relationship;
- ◆ few of the really major innovations that have taken place in history, can be traced to the inventor sensing that there is a latent reservoir of wants and needs to be satisfied (Bennett and Copper 1979);
- ◆ the marketing orientation framework as presently postulated by academics and practitioners, might be not only conceptual, but also contextual, hence might not apply in certain context, such as artist and ideologists, because of social norms and personal values that characterise the production process (Hirschman 1983);
- ◆ being marketing oriented can lead to the satisfaction of small groups of individuals, such as suppliers of guns and knives designed for criminals, that result in the organisation not being responsive enough to the society at large, hence leading to a negative impact on society; and
- ◆ at times, it might be difficult to be marketing oriented, since most products are sold with very little room for modification on the specification (Houston 1986).

Despite these criticisms, correlation with overall performance should be the main criterion in assessing the value of marketing orientation. The author

believes that the marketing concept per se is solid but the conceptualisation and codification of marketing orientation must be organic and evolve to meet requirements of the changing market place. The re-codification in this study was to bring such evolution into focus.

#### **4.5 Summary**

In this chapter, hypotheses have been developed concerning the marketing orientation construct, and competitor orientation in the facilities management industry. The relationship between marketing orientation and entrepreneurial orientation in this industry was considered and hypotheses formulated which will be investigated in the next chapter.

Value-added orientation, which is hypothesised to be a component of marketing orientation, theoretically links the marketing concept with postmodernist views, and also links marketing orientation theoretically with the environment in which the organisation operates.

Marketing orientation in the facilities management industry is hypothesised to consist of three behavioural components, namely; customer orientation, value-added orientation, and interfunctional co-ordination and one decision criterion namely business maintenance. This, and all the other hypotheses developed in this chapter, will be tested in the next chapter, and conclusions drawn.

## CHAPTER FIVE: MARKETING ORIENTATION SCALE DEVELOPMENT

### 5.0 Introduction

In the previous chapter, hypotheses were developed concerning the relationship between competitor orientation, entrepreneurial orientation, and marketing orientation in the industry. A conceptual framework of marketing orientation in the industry was also proposed. In this chapter, a scale development exercise will be undertaken to delineate the boundaries within which the hypotheses developed in the previous chapter can be tested.

A thorough literature review did not reveal any study within which a scale has been developed to capture the operationalisation of the marketing concept within a relatively young industry like the facilities management industry. In the scale development process, scale items that are considered to be characteristic of the components of marketing orientation as hypothesised in the previous chapter were formulated and data collected on them from the respondents.

The previous chapter explained the relationship between the components of marketing orientation as espoused in the literature. A rigorous analysis of the literature revealed inherent fundamental weaknesses when related to the facilities management industry. To overcome these weaknesses, a reconceptualisation was offered and hypothesis appertaining thereto proposed. Narver and Slater (1990) observed that profit orientation and long term focus are amongst the components that embed a marketing orientation. However, in their empirical analysis, this was found not be true despite the theoretical justification for their inclusion in analysing a firm's marketing orientation. Despite this failure, these traits are very important in fostering a marketing orientation. A new approach was adopted in this study. It was considered that the two orientations are so conceptually linked, that they can be combined together to form a new component called 'business maintenance', as discussed

in the previous chapter. The boundary condition within which the new marketing orientation scale is being developed consists of the facilities management industry. It is relatively young and is characterised by less competition compared to more established industries. It also operates like other industries at a time when the modernist culture is intersected and being superseded by the postmodernist culture.

### **5.1 Previous Marketing Orientation Scale Development.**

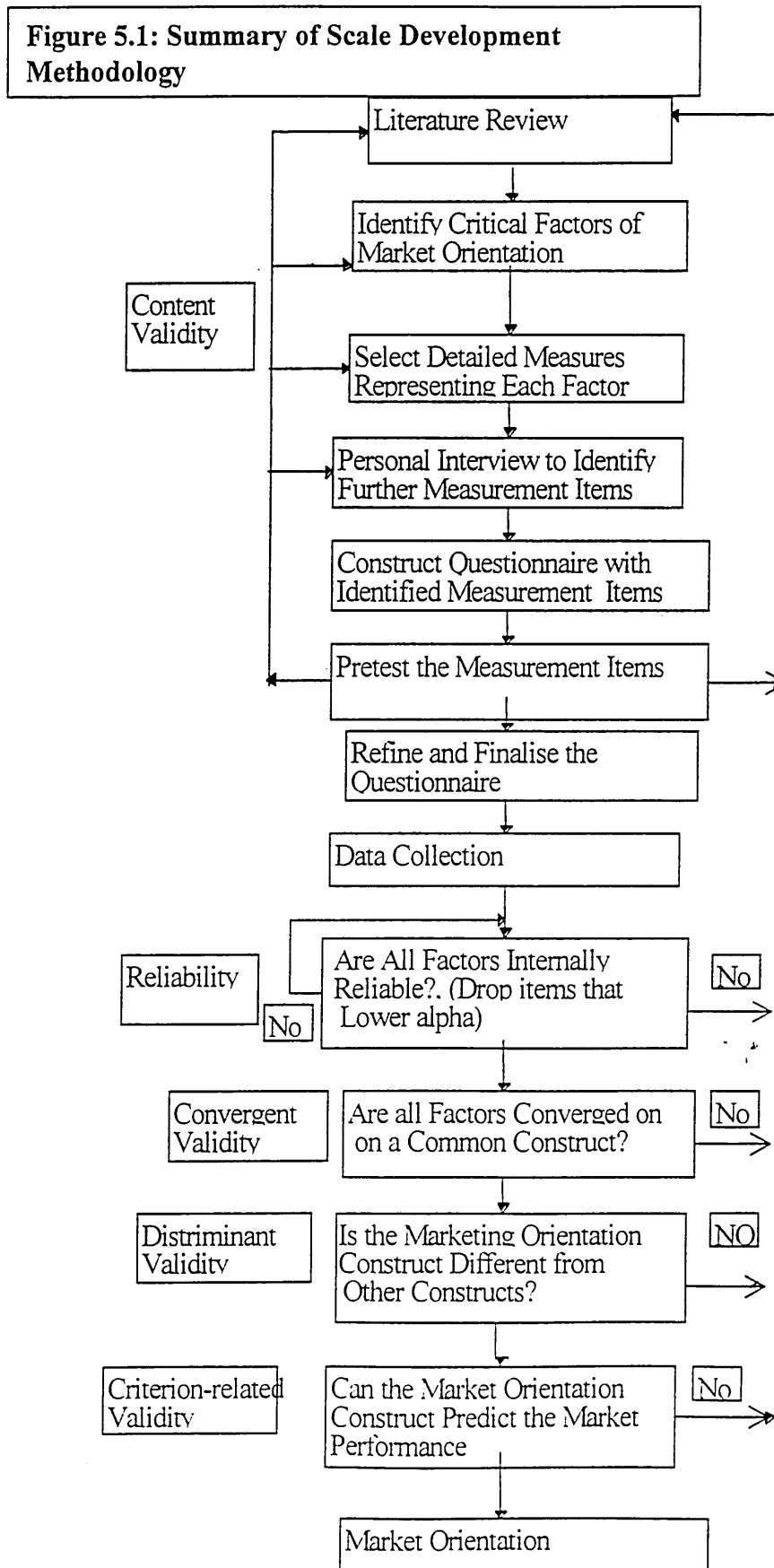
Marketing orientation is conceptually a multidimensional organisational phenomenon with each dimension representing a different feature (Narver and Slater 1990, Kohli and Jaworski 1990). Despite being multidimensional, marketing orientation is considered as a single construct. The rationale for this is that the components are conceptually very close (Narver and Slater 1990). This multidimensional character has resulted in marketing practitioners and scholars in the past measuring marketing orientation using various measurement dimensions. A summary of some of the measurement dimensions is as shown below (table 5.1).

**Table 5.1: Summary of Some Previous Theoretical Conceptualisation of the Market Orientation Scale**

**Critical Factors**

Authors	Customer Orientation	Competitor Orientation	Interfunctional Co-ordination	Profit Orientation	Long term Focus
Keith (1960)	X		X	X	
Hise (1965)	X		X	X	
McNamara (1972)	X		X	X	
Lusch and Lacznia (1987)	X		X	X	
Webster (1988)	X	X	X		
Narver and Slater (1990)	X	X	X	X	X
Kohli and Jaworski (1990)	X	X	X	X	X
Mezious (1991)	X		X	X	
Kohli et al (1993)	X	X	X	X	X
Greenley (1995)	X	X	X		

The procedure adopted for developing the marketing orientation construct in this study is similar to that used by Deng and Dart (1994), and can be represented schematically as shown below (figure 5.1).



Source: Deng and Dart (1994)

## **5.2 Descriptive Statistics of the Possible Components of Marketing Orientation**

The possible components of marketing orientation as described in chapter four were measured in all the organisations in the sample frame. Out of a possible highest score of 25 for customer orientation, the measurements produced a mean customer orientation of 19.52, with a median of 20 and a mode of 21. This possible component had a standard deviation of 3.601, which is one of the lowest amongst the components. This shows that the organisations are relatively clustered together in terms of their level of customer orientation. Eight organisations in the sample frame scored the highest possible score in customer orientation of 25 while the lowest score was 7 and this was obtained by a single organisation. The sum of all the scores in customer orientation was 2089 out of a highest possible sum of 2675. This is 78% of the highest possible sum. The above shows that the firms are on average adequately customer-oriented in their marketing orientation stances.

The firms had a mean competitor orientation of 12.748, with a median of 14, and a mode of 15. Standard deviation was 3.99, hence showing that the organisations are more sparsely distributed in terms of competitor orientation than they are in terms of customer orientation. The highest possible competitor orientation score of 20 was obtained by only one firm. Four organisations obtained a competitor orientation score of 5, which was the lowest score recorded for this possible component. The sum of all the scores for this component was 1364 out of the highest possible sum of 2140, which is only 64% of the highest possible sum. All of this suggests that the facilities management industry is not very competitor-oriented.

Interfunctional co-ordination had a mean score of 13.54, with a median of 14 and a mode of 14. Standard deviation was 3.48, which was the lowest of all the possible components. This shows that the organisations are not widely spread in terms of this component. The maximum possible score of 20 was

obtained by 4 firms, while the least score was 4 and this was obtained by one organisation. The sum of the interfunctional scores of all the firms was 1449 out of a possible highest sum of 2140, which is 68%. The above shows that the organisations in this industry are more interfunctionally-co-ordinated than they are competitor oriented. Despite this, customer orientation is more pronounced in the industry than these two components.

Business maintenance is fairly strong in the firms. It has a mean value of 25.79, with a median of 28, and a mode of 27. The highest possible score was 35, and the standard deviation was 4.91, hence showing that the organisations are fairly widely distributed in terms of their business maintenance stances. The maximum score obtained in this component was 34 and this was achieved by 3 organisations, while the lowest score was 10, and this was achieved by one firm. The sum of the scores for all the firms is 2760 out of a highest possible sum of 3745. This is 74% of the highest possible sum. These descriptive statistics show that the facilities management industry is very focused towards business maintenance in their marketing orientation endeavours.

Value-added orientation of the firms has a mean value of 33, a median of 34, and a mode of 35. The maximum possible score for this component is 45, and the standard deviation is 5.37. This is the highest standard deviation of all the possible components hence showing that the organisations are widely spread in terms of their value-added orientation stances. One firm obtained the highest score of 44 out of a possible highest score of 45. The lowest score was 18 and this was obtained by 3 organisations. The sum of the scores was 3570 out of a possible highest sum of 4615. This is 77% of the highest possible sum. From these statistics, it can be seen that the facilities management industry is significantly value-added oriented in their marketing efforts.



### **5.3 Face Validity**

Face validity is concerned with the relation between a measure and the construct it purports to measure. It is subjective in nature and depends on the skill of the researcher. To ensure face validity, after a preliminary draft of the scale items was completed, it was administered to 5 academics and 5 managers. Based on useful comments made, the questionnaire was altered with ambiguous items removed or adjusted. New items were introduced where necessary to adequately capture the characteristics of a market-oriented facilities management organisation or firm, within the defined boundary conditions. Following comments on the adequacy of the various items vis-à-vis their relation to marketing orientation, and suggestions for the inclusion of more items, the questionnaire was refined and sent to 5 facilities managers as a pretest in order to check the simplicity and ambiguity of the questions asked. Based on responses from the 5 facilities managers, the questionnaire was fine-tuned again to produce the final version.

### **5.4 Scale Reliability**

Reliability deals with the consistency, dependability, and stability of a measure. It can be demonstrated by calculating the cronbach alpha for the measure, and also the item-to-total correlation. A high cronbach alpha indicates internal consistency in the scale items used to measure a particular trait in a given sample. Reliability can also be defined as a correlation between a measure and itself. Since an entire trait cannot be simultaneously measured and correlated with itself, parts of a multi-item scale can be correlated with other parts, to get an approximate correlation of a measure and itself, hence demonstrating internal consistency. In other words, it can be said that the homogeneity of a set of measurement items is determined by undertaking the internal consistency test.

Reliability tests were undertaken by splitting the collected data into two unbiased groups. The procedure was repeated on the combined dataset (Churchill 1979). The reliability test results for the possible components of marketing orientation using the first half, the second half, and the whole data set is as shown below (table 5.2) where,

Cron1= the cronbach alpha value of the respective components  
using the first half of the sample

I-to T1 = the item-to-total correlation of the respective scale items  
using the first half of the sample

Cron2 = the cronbach alpha value of the respective components  
using the second half of the sample

I-to T2= the item-to-total correlation of the respective scale items  
using the first half of the sample

CronT= the cronbach alpha value of the respective components  
using the whole sample

I-to -TT= the item-to-total correlation of the respective scale items  
using the whole sample.

CUST14A to VADD19I represent the respective scale items on the questionnaire as shown in the appendices.

**Table 5.2: Summary of Reliability Analysis of the Possible Components of Market Orientation**

Item	Cron1	I-to-T1	Cron2	I-to T2	CronT	I-to-TT
<b>Cust O.</b>	<b>0.7330</b>		<b>0.7098</b>		<b>0.7212</b>	
CUST14A		0.5601		0.3226		0.4449
CUST14B		0.3578		0.5625		0.4598
CUST14C		0.5873		0.5814		0.5880
CUST14D		0.3911		0.5096		0.4183
CUST14E		0.5926		0.3814		0.4907
<b>Comp. O.</b>	<b>0.8074</b>		<b>0.7962</b>		<b>0.8009</b>	
COMP15A		0.5165		0.5042		0.5115
COMP15B		0.7027		0.6779		0.6806
COMP15C		0.5449		0.6916		0.6178
COMP15D		0.7468		0.5676		0.6553
<b>Interf. Co-</b>	<b>0.7802</b>		<b>0.7545</b>		<b>0.7667</b>	
INTF16A		0.6703		0.5507		0.6085
INTF16B		0.6480		0.7031		0.6761
INTF16C		0.5242		0.3516		0.5299
INTF16D		0.5000		0.4371		0.4684
<b>Bus. maint.</b>	<b>0.7742</b>		<b>0.7145</b>		<b>0.7387</b>	
LONG17A		0.4416		0.6187		0.5179
LONG17B		0.5288		0.3093		0.3885
LONG17C		0.6182		0.5780		0.6171
LONG17D		0.6391		0.6092		0.4885
PROF18A		0.4744		0.5057		0.3888
PROF18B		0.4750		0.2907		0.2437
PROF 18D		0.3956		0.1103		0.5899
<b>Value-A.</b>	<b>0.7433</b>		<b>0.6815</b>		<b>0.7103</b>	
VADD19A		0.2792		0.4805		0.3410
VADD19B		0.3648		0.3105		0.3447
VADD19C		0.5452		0.2343		0.3848
VADD19D		0.4701		0.3507		0.4420
VADD19E		0.4028		0.5611		0.4380
VADD19F		0.3953		0.3202		0.3498
VADD19G		0.5347		0.2794		0.4570
VADD19H		0.5812		0.3511		0.4329
VADD19I		0.3389		0.3644		0.3277

Table 5.2 shows that the combined dataset for all the components have a cronbach alpha value above the acceptable limit of 0.7 for such an exploratory study as recommended by Nunnally (1978). Competitor orientation exhibited the highest cronbach value i.e. the greatest internal consistency of all the components measured. The questionnaire was designed to measure long term focus and profit orientation, but the reliability of these two possible

components were far lower than the Nunnally (1978) cut off of 0.7. This is in line with previous research by Narver and Slater (1990) who also found that the scale items for long term focus and profit objective measures do not meet the 0.7 reliability threshold as recommended. They were not therefore able to make any concrete decision about the relationship between these two decision criteria and the three behavioural components. They could not say whether long-term focus and profit objective are two components of the marketing orientation construct, two components of a totally different dimension, or neither of the above. When elements of the two traits of long term focus and profit orientation were combined to form the Business Maintenance component as hypothesised in this study, a reliability value of more than 0.7 was obtained.

### **5.5 Construct Validity**

The investigation of a test's construct validity is not essentially different from the general scientific procedures for developing and confirming theories. A single study cannot establish construct validity. Construct validation is an ever-extending process of investigation and development. Even tentative acceptance of construct validity requires some aggregation of results, including both logical and deductive reasoning, and series of reliability and validity studies (Cronbach 1971).

Measure reliability, convergent validity, and discriminant validity are primarily trait validity investigations. Trait validity investigations provide necessary but not sufficient information for a construct validity acceptance (Peter 1981). A measure of a construct must also be useful for making observable predictions derived from theoretical propositions, before it can be accepted as valid, hence in addition to trait validity, measures must demonstrate nomological validity. Nomological validity consists of investigating constructs and measures in terms of formal hypothesis derived from theory and the empirical relationships between measures of those different constructs. It can be assumed that there is construct validity if the

patterns of correlation amongst variables conform to predictions from theory. Construct validity indicates the degree to which the scale measures what it was designed to measure (Churchill 1979), and factor analysis can be used to establish the construct validity of a specific scale (Kerlinger 1986).

### 5.5.1 Convergent Validity

Convergence validity is based on the correlation between responses obtained by maximally different methods of measure of the same construct (Campbell and Fiske 1959). Despite the importance of convergent validity in construct development, it must be realised that convergent confirmations may simply reflect unconscious bias in measure construction, by the inclusion of some common sources of variance, not related to the trait in question or to the method. Discriminant confirmations on the other hand might represent a failure in measure construction, rather than a trait divergence (Krause 1972, Lumsden 1976). Convergent validity is suggested by a strong correlation amongst the components of marketing orientation. The correlation matrix of the possible components is as shown below (table 5.3):

**Table 5.3: Correlation Matrix of the Possible Components of Market Orientation**

	<b>Cust. Orient.</b>	<b>Comp. Orient.</b>	<b>Interf. Co-ord.</b>	<b>Value-A. Orient.</b>	<b>Bus Maint.</b>	<b>Market Orient.</b>
<b>Cust. Orient</b>	1					
<b>Comp. Orient</b>	0.2300	1				
<b>Interf.Co-ord</b>	0.5352	0.2125	1			
<b>Value-A.Orient</b>	0.4572	0.2927	0.4209	1		
<b>Bus.Maint.</b>	0.5215	0.2810	0.3897	0.5046	1	
<b>Market.Orient.</b>	0.7475	0.5530	0.6803	0.7896	0.7801	1

Table 5.3 shows a correlation coefficient in the region of 0.5 between most of the variables, but the correlation coefficients between competitor orientation and the other components are significantly low (i.e. in the region of 0.25). The

rule of thumb for inter-item correlation and inter-component correlation vary, however, Robinson et al (1991), Vincent-Wayne (1994), all recommend 0.30 or greater values to be considered acceptable. The low correlation of competitor orientation with the other components is suggesting the possibility that competitor orientation is not converging with the other components onto a common construct.

To further investigate the possible components of marketing orientation, they were subjected to factor analysis. Factor analysis reveals the interrelationships between a large number of variables, and then explains these variables in terms of their common underlying dimensions. As a rule of thumb, there should be at least four or five times as many observations as there are variables to be analysed (Hair et al 1987). In this study, the number of observations is 107 ( $n=107$ ) and the number of variables being analysed using the factor analysis is 5, hence showing that factor analysis is appropriate.

Combining the scores on all five possible components in a one-factor solution in exploratory factor analysis gives the following results (table 5.4).

**Table 5.4: Summary of One-Factor Solution Factor Analysis Using All 5 Possible Components.**

**Initial Statistics:**

Variable	Commun.	Factor	Eigen value	Pct of Var	Cum Pct
BUSMAINT	1.0000	1	2.5731	51.5	51.5
COMPETIT	1.0000	2	0.8690	17.4	68.8
CUORIENT	1.0000	3	0.6252	12.5	81.3
INTFUNC	1.0000	4	0.5209	10.4	91.8
VALUEAD	1.0000	5	0.4118	8.2	100.0

**Factor Matrix:**

**Factor 1 Loading**

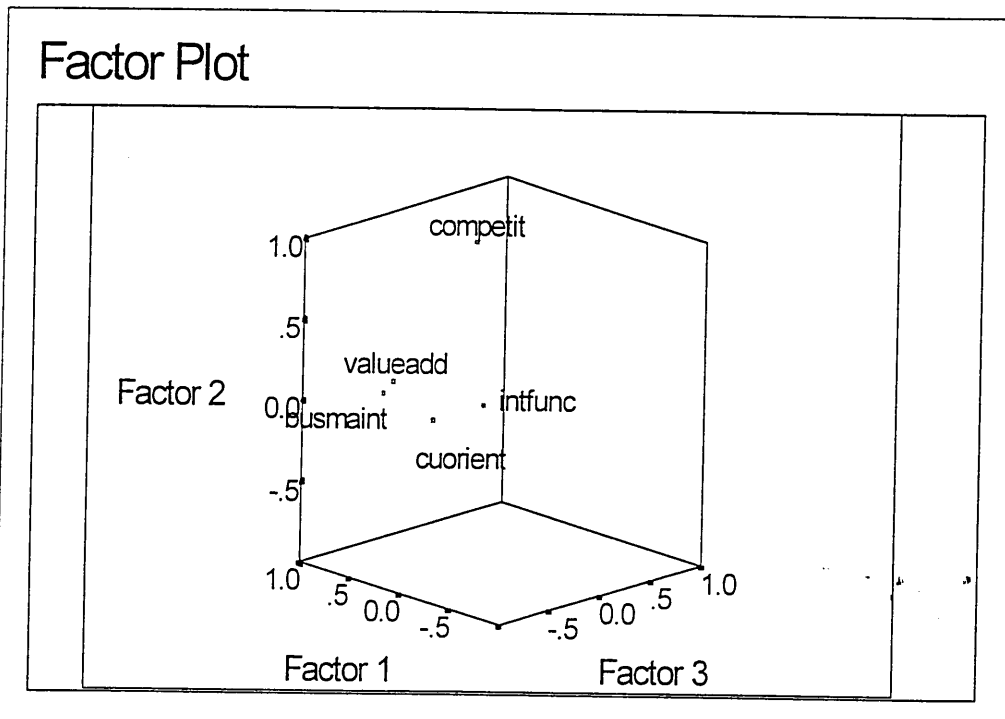
BUSMAINT	0.77439
COMPETIT	0.48259
CUORIENT	0.79054
INTFUNC	0.72988
VALUEADD	0.76340

**Final Statistics:**

Variable	Commun.	Factor	Eigen value	Pct of Var	Cum Pct
BUSMAINT	0.5997	1	2.5731	51.5	51.5
COMPETIT	0.2329				
CUORIENT	0.6250				
INTFUNC	0.5327				
VALUEAD	0.5828				

Table 5.4 shows an eigen value of 2.57305, with only 51.5% of variance explained. It also shows that competitor orientation exhibits a factor 1 loading of only 0.48259, while the other possible components all loaded over 0.7 on to factor 1. This suggests that competitor orientation is not factoring onto a common factor with the other factors. A factor plot of the loadings of the possible components in 3-dimensions is as shown below (figure 5.2).

**Figure 5.2: 3-Dimension Factor plot of the Loadings of the Possible Components of Marketing Orientation.**



It can be realised from the above that while the other components congregate together, competitor orientation is located at a significant distance from the others. This further suggests that it might not be converging into a single construct with the other components. A tentative removal of competitor orientation, and subsequent one-factor solution of the remaining 4 components, give the following result (table 5.5).



**Table 5.5: Summary of One-Factor Solution Factor Analysis Using the Four Hypothesised Components.**

**Initial Statistics:**

Variable	Commun.	Factor	Eigen value	Pct of Var	Cum Pct
BUSMAINT	1.0000	1	2.4168	60.4	60.4
CUORIENT	1.0000	2	0.6444	16.1	76.5
INTFUNC	1.0000	3	0.5247	13.1	89.6
VALUEAD	1.0000	4	0.4141	10.4	100.0

**FactorMatrix:**

**Factor1 Loading**

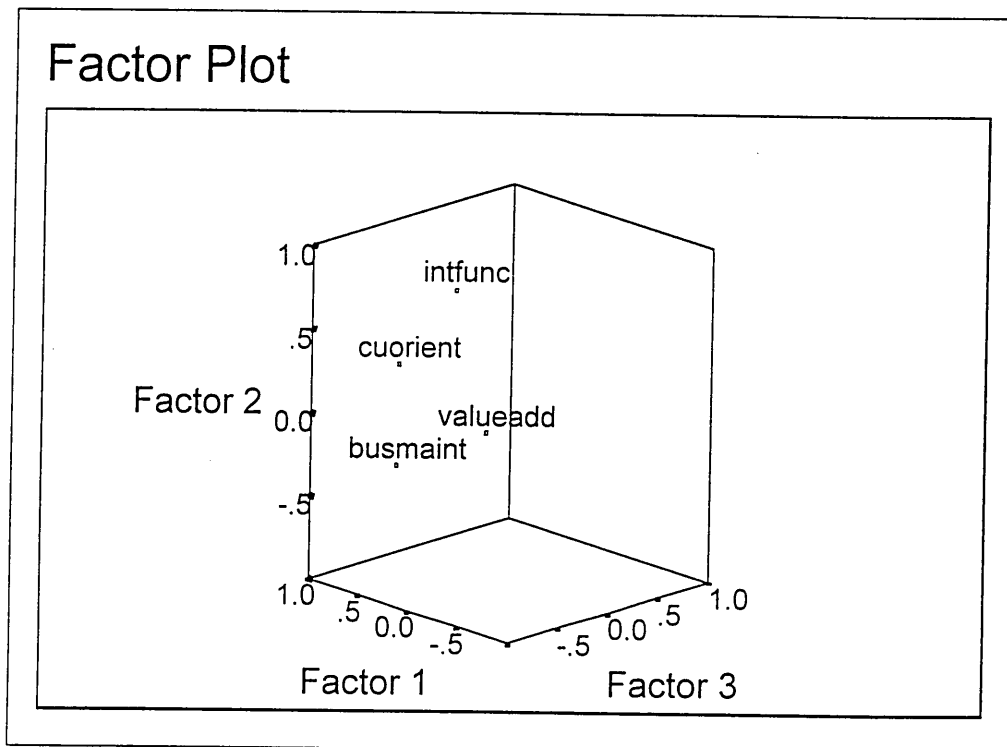
BUSMAINT	0.77890
CUORIENT	0.81630
INTFUNC	0.74893
VALUEADD	0.76348

**Final Statistics:**

Variable	Comm- unality	Factor	Eigen value	Pct of Var	Cum Pct
BUSMAINT	0.60668	1	2.4168	60.4	60.4
CUORIENT	0.66635				
INTFUNC	0.56090				
VALUEAD	0.58289				

The above exhibits an eigen value of 2.41683, and up to 60.4% of variance explained, suggesting that the removal of competitor orientation greatly improves the construct. All the 4 components show a factor loading over 0.7, hence showing that all the components are loading significantly onto factor 1. The loadings of the 4 components can be represented in 3-dimensions as shown below (figure 5.3).

**Figure 5.3: 3-Dimension Factor plot of the Loadings of the Hypothesised Components of Marketing Orientation.**



It can be realised from the above diagram that the 4 components seem to be evenly distributed with none of the components a significant distance from the others hence suggesting that they are converging to a single construct.

To finally make a decision whether to eliminate competitor orientation from the construct or not, the scores of all 5 possible components were subjected to a 2- factor varimax orthogonal rotation factor analysis. In an orthogonal extraction, factors are extracted in such a way that factor axes are maintained at 90 degrees, hence making each factor completely independent of each other. The two factor solution orthogonally rotated factor matrix is as shown below (table 5.6).

**Table 5.6: Summary of Two-Factor Solution Varimax Orthogonal Rotated Factor Analysis Using all 5 Possible Components.**

**Final Statistics**

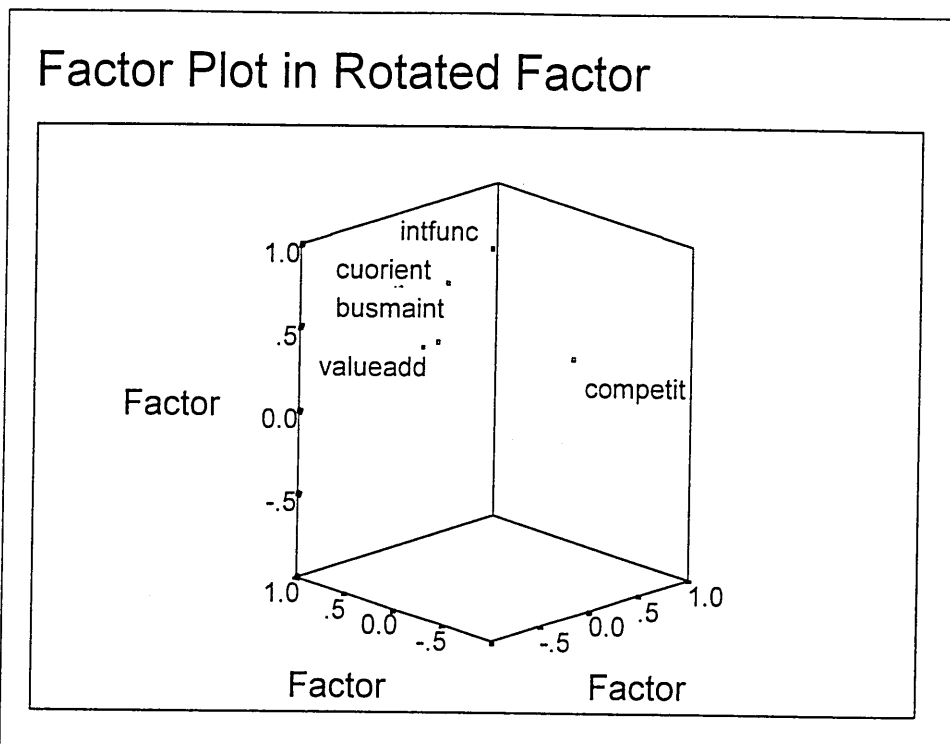
Variable	Communality	Factor	Eigen value	Pct of Var	Cum Pct
BUSMAINT	0.6001	1	2.5731	51.5	51.5
COMPETIT	0.7053	2	0.8690	17.4	68.8
CUORIENT	0.6040				
INTFUNC	0.5839				
VALUE ADD	0.9487				

**Rotated Factor Matrix:**

	Factor 1	Factor 2
BUSMAINT	0.72478	0.27343
COMPETIT	0.12833	0.96551
CUORIENT	0.83911	0.03517
INTFUNC	0.77669	0.02764
VALUE ADD	0.69433	0.31913

The rotated factor matrix (table 5.6) above shows that while all the other components factored from 0.69433 to 0.77669 into the first factor, competitor orientation factored only 0.12833 into the first factor and factored a significant amount of 0.965517 onto the second factor. The other components factored only from 0.02764 to 0.31913 onto the second factor. The above clearly shows that competitor orientation is part of a second factor. This second factor is different from that onto which the other components are converging. The fact that competitor orientation does not factor with the other components can be clearly seen by the distance between the competitor orientation component and the others on a factor plot in rotated factor space in 3-dimensions as shown below (figure 5.4).

**Figure 5.4: 3-Dimension Factor plot of the Loadings of the Possible Components of Marketing Orientation in Rotated Factor Space.**



In order to further investigate the construct, the scores of all the five possible components were subjected to an Oblima oblique two-factor solution factor analysis. This is in consonance with the recommendation of Stewart (1981), who states that the careful researcher should almost invariably perform both orthogonal and an oblique rotation, particularly in exploratory work. In an oblique extraction, factors are not completely independent of all other factors and some degree of commonality is maintained. The resultant factor matrix from an Oblima 2 factor solution oblique factor analysis, is as shown below (table 5.7).

**Table 5.7: Summary of Two-Factor Solution Oblima Oblique Rotated Factor Analysis Using All 5 Possible Components.**

**Pattern Matrix:**

	<b>Factor 1</b>	<b>Factor 2</b>
BUSMAINT	0.71853	0.15041
COMPETIT	0.01896	0.96847
CUORIENT	0.86509	-0.11485
INTFUNC	0.80132	-0.11135
VALUE ADD	0.68159	0.20282

**Structure Matrix:**

	<b>Factor 1</b>	<b>Factor 2</b>
BUSMAINT	0.76109	0.35374
COMPETIT	0.29301	0.97383
CUORIENT	0.83259	0.12995
INTFUNC	0.76981	0.11540
VALUE ADD	0.73898	0.39569

The above structure matrix shows that all the components loaded above 0.7 onto the factor 1, except for competitor orientation which had a significant loading of 0.9738 onto the second factor, hence confirming that competitor orientation is not part of the construct on which the other components are converging.

Competitor orientation was eliminated from the marketing orientation construct at this stage, because of the reasons explained above which can be summarised as follows:

- ◆ the theoretical underpinning that the various components are very close, hence they should converge onto a single construct (Narver and Slater 1990);
- ◆ competitor orientation shows very little correlation with the other components;

- ◆ inclusion of competitor orientation into the model decreases the variance explained in a one factor solution factor analysis from 60.4% to 51%;
- ◆ in a one factor solution, competitor orientation shows a very low factor loading, while all the other components load significantly onto the factor;
- ◆ competitor orientation component shows a high cronbach alpha of above 0.8 in reliability analysis, hence indicating a high internal consistency, hence no possibility that the scale items might have failed to capture the measure;
- ◆ in a 2-factor Varimax orthogonally rotated factor analysis, competitor orientation factors only 0.12833 onto the factor where all the other components load, and up to 0.96551 onto a second factor. A similar situation is realised in an Oblima oblique 2-factor solution factor analysis; and
- ◆ when respondents were asked to rank the possible components of marketing orientation in order of importance to their marketing activities, most respondents ranked competitor orientation as least important.

In the marketing literature, the most widely accepted and quoted measures of marketing orientation seems to be that of Narver and Slater (1990), Kohli and Jaworski (1990), and Kohli et al (1993). In all of these studies, competitor orientation was considered an integral part of marketing orientation. With this realisation in mind, it was decided that the results should be counter-checked by using an interpretative approach. The issue of competitor orientation was taken up in in-depth interviews with respondents from six organisations with characteristics as discussed in chapter two. The results of the interviews in relation to this particular aspect are as discussed below.

### **How important is competitor orientation to the firm as compared to customer orientation?**

The issue of competitor orientation in the facilities management industry was discussed in chapter four and empirically investigated in this. All the six respondents in the interview sample claim that their organisations mainly

concentrate on the customer and very little attention is paid to the competition. The reasons for this lack of competitor orientation were varied.

*'The competition is irrelevant and what counts is the quality of service provided. If you look at the competition, you will tend to cut corners, in order to always submit a lower bid than them'* (Managing Director, Company A)

More than half of the respondents saw competitor orientation in terms of price rivalry. Some in this group saw competitor orientation as being dangerous, and something to be avoided. They think competitor orientation can easily make the organisation insolvent. Two respondents attributed their survival for many years to a lack of competitor orientation, since organisations that lowered their bids to match the competition, ended up with contracts they could not execute.

Only one respondent saw the importance of competitor orientation in the process of serving the customer.

*'I think as management, it is important for us to be getting information about buildings managed by others, in terms of their management cost, cost per square metre, to see how we compare with them'* (Associate Director, Company B)

Despite stating the importance of competitor orientation, the associate director of company B noted that, unfortunately, his organisation is not competitor oriented. Lack of competitor information was cited as making the institution of such an orientation difficult. He states that this lack of competitor orientation is detrimental to the customer.

*Recently, a client asked me about the management cost of a building next to the one we are managing and I could not give him that information because we are not competitor oriented, although the client wants that information'* (Associate Director, Company B)

The indication from the interviews is that the lack of competitor orientation in the facilities management industry is mainly because organisations in the industry see competitors as price rivals. The possibility that an organisation can learn from the competition by benchmarking and improving itself was not generally spelt out in the interviews. The need to avoid price rivalry seems more important as a cause of low competitor orientation than a lack of competitor information. Another reason for the low competitor orientation in the industry, is the relatively low level of competition in the industry.

*'In terms of the competitors, we are in a unique position in that non of the other surveying firms in Sheffield can undertake the type of facilities management we do, hence we do not do much marketing.'* (Associate Director, Company B)

Apart from the possibility of the above explanations, the absence of competitor orientation as a component of market orientation, can also be viewed from the point of view that value-added orientation, which qualified empirically as a component of marketing orientation, has an element of competitor orientation. It involves differentiating a firm's services from those of competitors, making efforts so that customers give the best ranking to a firm's services or products and also the process of actively managing customer expectations.

External support for the empirical findings concerning competitor orientation can be found in the very recent work of Siu and Wilson (1998). While working in the Education sector, their conceptualisation of marketing orientation did not include competitor orientation, although this exclusion was not empirically tested.

It is worthwhile mentioning that no previous study has hypothesised on the lack of significance of competitor orientation as a component of marketing orientation in any industry and gone ahead to prove it as the case here. However, in some pioneering studies, marketing orientation was



conceptualised and measured without any competitor orientation component (Keith 1960, Hise 1965, McNamara 1972, Lusch and Laezniak 1987). These studies can thus help as external validation of the present findings.

To further check for convergent validity in the remaining 4 components, the scores of these components were combined in a reliability analysis and the results are as follows (table 5.8):

**Table 5.8: Reliability Analysis Using the Remaining Components after Eliminating Competitor Orientation**

Component	Cronbach alpha	Item to Total Correlation
	0.7656	
Business Maintenance		0.5925
Customer Orientation		0.6264
Interfunctional Co-ordination		0.5375
Value-added Orientation		0.5754

The high cronbach alpha indicates that the measure is internally consistent. Further analysis of the components of marketing orientation from this point, will involve only the remaining components, namely;

- ◆ customer orientation;
- ◆ interfunctional co-ordination;
- ◆ value-added orientation; and
- ◆ business maintenance.

### 5.5.2 Content validity

Content validity depends on the extent to which practitioners and scholars in the area concerned agree that the constituent items cover all aspects of the

variable being measured. This depends on the skill of the constructor, in creating items that cover the content domain of the variables under review (Nunnally 1978). Content validity for the instrument of measuring marketing orientation was ensured by carefully pretesting the scale items as previously described.

### **5.5.3 Criterion validity**

Criterion validity involves the extent to which the scores on the instrument developed is related to independent measures of relative criterion. In order to check for criterion validity, the correlation of the 4 components of marketing orientation with the performance of the firms involved, were investigated. In the questionnaire, respondents were asked to rate their performance on various measures on a Likert scale from 1 to 5. The results were then subjected to reliability analysis to check for internal consistency. It was realised that the reliability of the performance measure was being improved when the question asking about annual growth in new customers was eliminated. This was thus eliminated. The final reliability results for the overall performance measure is as shown below (table 5.9).

**Table 5.9: Reliability Analysis of the Overall Performance Measure:**

**Item-total Statistics**

	Scale Mean if Item Deleted	Scale variance if Item Deleted	Corrected Item-Total Correl.	Squared Multiple Correl.	Alpha if Item is Deleted
PERF26A	24.8785	17.5228	0.1972	0.1302	0.7873
PERF26B	25.0467	14.2714	0.5863	0.4949	0.7180
PERF26C	25.0654	14.9674	0.5636	0.4461	0.7237
PERF26D	24.7664	17.2373	0.3429	0.1884	0.7605
PERF26E	25.0093	14.5565	0.6616	0.5505	0.7063
PERF26F	24.6449	16.1180	0.3931	0.2427	0.7546
PERF26H	24.9626	15.4514	0.5300	0.3830	0.7307
PERF26I	24.5047	15.8561	0.4715	0.2843	0.7408

Reliability Coefficients 8 items

Alpha = .7666      Standardised item alpha = .7649

PERF26A to PERF26I, represent the questions on the questionnaire.

The Cronbach value is above the Nunnally (1978) cut-off value of 0.7 for such exploratory studies hence, there is internal consistency in the overall performance measure.

The firms showed a mean overall performance of 28.41, with a median of 29, and a mode of 29. The standard deviation was 4.46. This indicates that the organisations are widely spread in terms of their values of overall performance. Non of the organisations obtained the possible highest overall performance score of 40. The highest score obtained was 38 and this was by one firm. The minimum score achieved was 14, and this was again by one organisation. The sum of the scores was 3040 out of a possible highest sum of

4280. This is 71% hence showing that organisations in the facilities management industry are on average performing well.

### **5.5.3.1 Marketing Orientation and Performance**

To investigate the relationship between marketing orientation and performance, a decision had to be made on how to calculate them. Crucial to this, is the decision whether to apply relative importance weightings to the various components.

#### **5.5.3.1.1 Relative Importance of the Components of Marketing Orientation**

In reformulating marketing orientation, it is important to analyse the difference, between the mean score of its components, in order that the overall score, does not counterbalance higher scores in one component and low scores in another (Mayfield and Crompton 1995). Customer Orientation has been described as the most important component of marketing orientation (Peters and Waterman 1982, Deshpande, Farley, and Webster 1993, Lawton and Parasuraman 1980). Other researchers such as Narver and Slater (1990, 1994), Kohli and Jaworski (1990), Kohli, Jaworski and Kumar (1993), Jaworski and Kohli (1993), Greenley (1995), hold the view that the components should be weighted equally. The discussion on the relative importance of the components in the marketing literature has been based mainly on a theoretical basis, with no empirical evidence to back it. The above leads to the following question:

**Question 1: Using empirical evidence, is it justified to give equal weighting to the components, when calculating marketing orientation ?.**

In order to answer this question which has not been empirically addressed before in the marketing literature, all the respondents were asked to rank the possible components of marketing orientation in descending order of

importance. 1 was given for the most important and 6 for the least important component in their marketing orientation activities. The results of the rankings are as shown below (table 5.10).

**Table 5.10: Ranking of the Importance of Possible Components of Market Orientation**

<b>Ranking</b>	<b>Cust. Orient.</b>	<b>Comp. Orient.</b>	<b>Interf. Co-ord.</b>	<b>Long Term focus</b>	<b>Profit Orient</b>	<b>Value- added Orient.</b>
<b>1st</b>	56	1	3	16	5	24
<b>2nd</b>	16	10	7	19	19	40
<b>3rd</b>	13	12	19	28	17	17
<b>4th</b>	12	16	25	15	30	12
<b>5th</b>	7	25	30	13	26	4
<b>6th</b>	3	43	26	16	10	10

Applying a weighting factor of 6 for most important, followed by 5 for next most important, until finally a weighting factor of 1 for least important, the weighted rankings are as shown below (table 5.11).

**Table 5.11: Weighted Rankings of the Possible Components of Market Orientation**

<b>Ranking</b>	<b>Cust. Orient.</b>	<b>Comp. Orient.</b>	<b>Interf. Co-ord.</b>	<b>Long Term focus</b>	<b>Profit Orient</b>	<b>Value- added Orient.</b>
1st	336	6	18	96	30	144
2nd	80	50	35	95	95	200
3rd	52	48	76	112	68	68
4th	36	48	75	45	90	36
5th	14	50	60	26	52	8
6th	3	43	26	16	10	10
<b>TOTAL</b>	<b>521</b>	<b>245</b>	<b>290</b>	<b>390</b>	<b>345</b>	<b>466</b>
<b>Final Ranking</b>	1st	6th	5th	3rd	4th	2nd

The final classification shows that respondents consider customer orientation to be the most important component in their marketing orientation activities, followed by value-added orientation. Competitor orientation was considered the least important. This seems to be in consonance with the fact that competitor orientation was later found not to converge with the other possible components.

A decision whether to give different weightings to the components in the calculation of the value of marketing orientation (hence the answer to question 1), can be made if the coefficient of concordance of the rankings is known. Using the Spearman's rank correlation method, the coefficient of concordance of the rankings was calculated using the following procedure:

$$\lambda = (\Omega (\theta + 1))/2 = (107(6+1))/2 = 374.5$$

Where

$\lambda$  = The expected weighted rank total

$\Omega$  = number of respondents

$\theta$  = number of parameters ranked.

Assuming that  $\delta$  = the square of the difference between the observed weighted rank total, and the expected weighted rank total,  $\delta$  values of the various ranked options can be represented as shown below (table 5.12).

**Table 5.12: Observed and Expected Weighted Rankings**

Option	Observed weighted ranked total	Difference between observed and expected weighted rank totals	Square of the difference between observed and expected weighted rank totals ( $\delta$ )
Customer Orientation	521	146.5	21462.25
Competitor Orientation	245	-129.5	16770.25
Interfunctional Co-ordination	290	-84.5	7140.25
Long Term Focus	390	15.5	240.25
Profit Orient.	345	-29.5	870.25
Value-added Orientation	466	91.5	8372.25
<b>Total</b>			<b>54855.50</b>

From the above, the sum of the square of the difference between the observed and expected weighted rank totals is as follows:

$$\mu = \sum \delta = 54855.5$$

where  $\mu$  is the sum of the square of the difference between the observed weighted rank totals, and the expected weighted rank total. From the above, the coefficient of concordance of the rankings, can be calculated as shown below:

$$\begin{aligned}\omega &= (12 \mu) / (\Omega^2 x (\theta^3 - \theta)) \\ &= (12 \times 54855.5) / ((107)^2 \times (6^3 - 6)) \\ &= 0.2738\end{aligned}$$

where  $\omega$  = the coefficient of concordance of the rankings, and all other variables as previously defined.

The coefficient of concordance is designed to vary from 0 designating complete chaos or randomness in the rankings, to 1 designating complete agreement or harmony in the rankings. The above coefficient of concordance of 0.2738 implies that the respondents do not agree in their rankings of the options. Following from this, the answer to the question 1, is that the components of marketing orientation should be given an equal weighting. This result gives empirical backing to what had been assumed by other researchers based only on the theoretical conceptualisation of marketing orientation.

### **5.5.3.2 Correlation between Marketing Orientation and Overall Performance**

The criterion validity of the marketing orientation construct developed was checked by investigating the correlation between the level of marketing orientation of the organisations measured using the construct, and overall



performance. Overall performance was calculated without any importance weighting of the components. This is because the marketing literature does not give any empirical evidence to suggest that one measure is significantly more important than the other. Having said this, the relationship between marketing orientation and the individual commonly used measures of performance was investigated.

The correlation matrix between marketing orientation, components of marketing orientation, and overall performance, is as shown below (table 5.13).

**Table 5.13: Correlation between Marketing Orientation, Components of Market Orientation, and Overall Performance**

	<i>Cust orient.</i>	<i>Value-added Orient.</i>	<i>Intfunc Co-ord</i>	<i>Business Maint.</i>	<i>Overall Perform</i>	<i>Market Orient.</i>
<b>Customer Orient.</b>	1.0000					
<b>Value-added Orient.</b>	0.4576	1.0000				
<b>Intfunc Co-ord.</b>	0.5344	0.4209	1.0000			
<b>Business Maint.</b>	0.5225	0.5046	0.3897	1.0000		
<b>Overall Perform.</b>	0.4245	0.4368	0.2785	0.4983	1.0000	
<b>Market Orient.</b>	0.7744	0.8098	0.7075	0.8019	0.5385	1.0000

Table 5.13 shows a correlation coefficient of 0.5385 between marketing orientation and overall performance. This shows that marketing orientation as measured using the construct developed is well correlated with overall performance, and this gives criterion validity to the construct. The relationship between the marketing orientation as measured by the construct and individual measures of performance was also investigated. This is to see how this compares with past studies in this area.

### 5.5.3.3 Marketing Orientation and Market Share

In the facilities management industry, where there is heterogeneity and variability in services provided resulting from judgements made by the facilities manager, a close interaction between the marketing and operations functions is necessary, in order that customer specifications are properly conveyed while maintaining adequate quality standards (Collier 1987). The industry can grow by expanding into virgin areas, or by competing and gaining market share from existing professions like surveying, management, architecture and so on. This might be effectively done if the facilities management profession proves to be more marketing oriented than these professions. The strategies available for this growth in market share can be described in many ways, amongst which is the Ansoff's matrix (Watze and Mindak 1987), which involves the following options:

- ◆ a strategy where market share is increased by doing more business with present customers. This strategy in the facilities management context might prove to be the cheapest, because the current customer base is far from saturated, and is growing.
- ◆ a strategy where new services are developed for current customers . This strategy might be found with the more entrepreneurial facilities management companies that might already have a large client base;
- ◆ a strategy where new target markets are developed for existing services. The increasing awareness of the importance of facilities management by the population at large and the corporate world in particular will strengthen the potential of this strategy in the market place; and
- ◆ a strategy where co-operation, mergers, or diversification of new services is undertaken, with new target markets in mind. This strategy is generally more risky, and the risk averse facilities management company might not want to try it. The Ansoff's matrix as described above. can be represented as shown below (table 5.14)

The above shows an x-coefficient of 0.0277, an R-square value of 0.1621 and a p-value less than 0.0001. This shows that there is only a weak relationship between marketing orientation and market share growth. The weak relationship is in agreement with previous studies (Jaworski and Kohli 1993). This might be symptomatic of the fact that market share growth might be a less accurate measure of performance, compared to other measures of performance. Certain high performing organisations might deliberately pursue a focused strategy, and be unconcerned about market share positions (Porter 1990). Another possible explanation for the weak relation found in this study, is the fact that there might be a lag in the effect of marketing orientation on market share growth. It is possible that marketing orientation might have a strong effect on market share growth on a relatively long period of time, hence the strong relationship could not be captured in this study (Kohli and Jaworski 1990).

#### **5.5.3.4 Marketing Orientation and Relative Product Quality**

A marketing-oriented organisation is sensitive to the needs and wants of customers. Such a firm actively solicits customer complaints and comments, which are then built into product and service design. Customers are also involved in the strategic planning of the company. This constant feedback from the customer and subsequent improvement will lead to a higher product and service quality, hence it is expected that marketing orientation should be positively related to product quality. The strength of the above relationship will be influenced by environmental factors in which the organisation operates. It therefore follows that marketing orientation and total quality orientation are complementary business philosophies, with potential for improving the success of a business (Iris 1998). In order to investigate the relationship between marketing orientation and relative product quality, a simple regression analysis was undertaken in which marketing orientation was made the independent variable and relative product quality the dependent variable. A summary of the analysis is as shown below (table 5.16):

**Table 5.16: Summary of Regression Analysis Using Market Orientation and Relative Product Quality**

Multiple R	0.3724					
R Square	0.1387					
Adj R Sq.	0.1305					
Std. Error	0.8155					
Observ.	107					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>	
Regress.	1	11.241	11.241	16.904	7E-05	
Residual	105	69.823	0.6649			
Total	106	81.065				
	<i>Coeff.</i>	<i>Stand. Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	1.6877	0.5453	3.0944	0.0025	0.6063	2.7691
Mkt Orient.	0.0240	0.0058	4.1115	7E-05	0.0124	0.0356

The above results show an adjusted R-square of 0.1387, an x-coefficient of 0.0240, and a very low p-value. This confirms that there is a positive relation between marketing orientation and relative product quality in the facilities management industry, although the relation is rather weak, as can be seen from the size of the x-coefficient, and the R-square value.

#### 5.5.3.5 Marketing Orientation and Profitability

Marketing orientation can result to greater profitability indirectly through other factors that affect profitability such as relative product quality (Phillips et al 1987, Cooper 1984). It can also aid an organisation to satisfy two of Rumelt's (1981) criteria for evaluating strategies namely: consistency and workability (Pelham and Wilson 1996). A market-oriented firm is interfunctionally and interdepartmentally co-ordinated. This is likely to result

to greater workability, that results to reduced error correction costs, thus ending directly in greater profitability.

Customer satisfaction is an emotional response to the difference between what customers expect, and what they ultimately receive. Johnson and Chvala (1996) state that customer satisfaction is important to a business, since a satisfied customer:

- ◆ buys more and stays loyal longer;
- ◆ buys additional products as the company introduces and upgrades its products;
- ◆ speaks favourably about the company and its products;
- ◆ pays less attention to competing products and advertising and is less price sensitive;
- ◆ volunteers product/service ideas to the company; and
- ◆ costs less to serve than a new customer because transactions are routinised.

The repeat business emanating from the above can result to greater profitability. The marketing concept represents a distinct organisational culture, and true adoption by an organisation results in a strategic customer focus (Deshpande and Webster, 1989). This also might result in greater efficiency and profitability.

In order to investigate the relationship between marketing orientation and profitability, a simple regression model was constructed using marketing orientation as the independent variable, and profitability as the dependent variable. The results of the above regression analysis is as shown below (table 5.17):

**Table 5.17: Summary of Regression Analysis Using Marketing Orientation and Profitability**

Multiple R						
R Square	0.1596					
Adj R Sq.	0.1516					
Std Error	0.9501					
Observ.	107					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>	
Regression	1	18.0004	18.0004	19.9404	2.0E-05	
Residual	105	94.7846	0.9027			
Total	106	112.7850				
	<i>Coeff.</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	0.5568	0.6354	0.8762	0.3830	-0.7032	1.8167
Mkt Orient	0.0304	0.0068	4.4655	2.01E-05	0.0169	0.0440

The above shows an R-square value 0.1596, x-coefficient of 0.0304, and a p-value significant at 0.001, hence showing that there is a positive relationship between marketing orientation and profitability, although not very strong as evident from the x-coefficient.

The above results show that the x-coefficients in the regression analyses using marketing orientation and the individual measures of performance, are far lower than that between marketing orientation and overall performance. This suggests that 'overall performance' is a better measure of performance in the facilities management industry. The correlation coefficient of 0.539 obtained between marketing orientation and overall performance is lower than that reported by Deng and Dart (1994), but it is significantly greater than that reported by other researchers such as Gray et al (1998), Greenley (1995a and 1995b), who found only a weak relationship. This thus gives strong criterion validity to the measure developed. The relatively weak relationship between

marketing orientation and the individual measures of performance is in agreement with previous studies (Caruana et al 1995, Gray et al 1998, Greenley 1995a and 1995b, Doyle and Wong 1998). This again helps to provide validation to the measure developed. After investigating the criterion validity of the measure, it is necessary to investigate how the measure differs from similar measures like entrepreneurial orientation.

## **5.6 Entrepreneurial Orientation and Marketing Orientation**

The relationship between marketing orientation and entrepreneurial orientation as hypothesised in the previous chapter was investigated in order to test the hypothesis that market orientation and entrepreneurial orientation are not one and the same construct in the facilities management industry although they are positively related. The level of entrepreneurial orientation of the organisations were measured mainly using previously developed scales without any significant changes, since these scales have proved successful in measuring the entrepreneurial construct in previous studies (Morris and Paul 1987, Covin and Slevin 1989). The scores of the various organisations in the entrepreneurial orientation construct, were subjected to reliability analysis, and the results were as shown below (table 5.18).

**Table 5.18: Reliability Analysis of Entrepreneurial Orientation**

	Scale Mean if Item Deleted	Scale variance if Item Deleted	Corrected Item-Total Correl.	Squared Multiple Corre.	Alpha if Item is Deleted
ENTR20A	45.1121	58.1571	0.3750	0.3995	0.8030
ENTR20B	45.3364	57.0744	0.4596	0.3517	0.7961
ENTR20C	45.0093	59.1226	0.3766	0.4074	0.8023
ENTR20D	45.4393	55.1166	0.5106	0.3394	0.7917
ENTR20F	45.0654	58.5900	0.4084	0.3109	0.8000
ENTR20G	45.4393	58.6637	0.3956	0.3212	0.8010
ENTR20H	45.0841	58.5117	0.3712	0.4183	0.8031
ENTR20I	44.9346	56.6278	0.4876	0.4955	0.7939
ENTR20J	44.5514	58.6837	0.4911	0.5119	0.7952
ENTR20K	44.9720	57.6313	0.5057	0.4764	0.7933
ENTR20L	44.9813	57.5091	0.3688	0.3213	0.8044
ENTR20M	45.3178	58.4075	0.4078	0.2615	0.8001
ENTR20N	44.6355	59.1206	0.4056	0.2597	0.8003
ENTR20E	44.5607	57.0788	0.5330	0.4203	0.7912

Cronbach alpha = 0.8100

Standardised item alpha = 0.8130

The cronbach value is above the Nunnally (1978) cut off value, showing that there is internal consistency in the measure. This is in consonance with the results obtained in other industries, where the above entrepreneurial scale has been used (Morris and Paul 1987, Covin and Slevin 1989). A correlation matrix between the entrepreneurial orientation measure and the components of marketing orientation is as shown below (table 5.19).



**Table 5.19: Correlation Matrix of Components of Marketing Orientation and Entrepreneurial Orientation**

	Cust. Orient.	Entre. Orient	Interf. Co-ord	Value-A Orient.	Bus. Maint.
Cus Orient.	1.0000				
Entre Orient	0.4893	1.0000			
Interf. Co- ord	0.5344	0.5229	1.0000		
Value-A Orient.	0.4576	0.5193	0.4209	1.0000	
Bus Maint	0.5225	0.4685	0.3897	0.5046	1.0000

The correlation between entrepreneurial orientation and the components of marketing orientation are each around 0.5, hence showing that the two constructs might be converging to one construct.

The entrepreneurial orientation construct was combined with the marketing orientation construct and subjected to a one factor solution factor analysis, and the results were as follows (table 5.20):

## 5.20: Summary Results of a One factor Solution Factor Analysis Using the Components of Marketing Orientation and Entrepreneurial Orientation

### Initial Statistics:

Variable	Commun.	Factor	Eigen value	Pct of Var	Cum Pct
CUORIENT	1.0000	1	2.93319	58.7	58.7
ENTRE.O	1.0000	2	0.64748	12.9	71.6
INTFUNC	1.0000	3	0.56189	11.2	82.9
VALUEAD	1.0000	4	0.45046	9.0	91.9
BUSMAINT	1.0000	5	0.40698	8.1	100.0

### Factor Matrix:

#### Factor 1 Loading

CUORIENT	0.78761
ENTRE.O	0.78658
INTFUNC	0.74663
VALUEADD	0.75635
BUSMAINT	0.75141

### Final Statistics:

Variable	Comm- unality	Factor	Eigen value	Pct of Var	Cum Pct
CUORIENT	0.62033	1	2.93319	58.7	58.7
ENTRE. O	0.61871				
INTFUNC	0.55746				
VALUEAD	0.57207				
BUSMAINT	0.56462				

Kaiser-Meyer-Olkin Measure of Sampling Adequacy = .82991

Bartlett Test of Sphericity = 168.86116, Significance = .00000

The above results show an eigen value of 2.93319, and explains up to 58.7% of the variance. The factor matrix for the one factor solution shows factor loadings ranging from 0.75141 to 0.78761. This seems to suggest that all the variables are converging to one construct. In order to further analyse the variables, they were subjected to a Varimax orthogonal rotation 2-factor solution factor analysis, and the results were as shown below (table 5.21):

**Table 5.21: Summary Results of a 2-Factor Solution Varimax Orthogonal Rotation Factor Analysis Using the Components of Marketing Orientation and Entrepreneurial Orientation**

**Rotated Factor Matrix:**

	<b>Factor 1 Loading</b>	<b>Factor 2 Loading</b>
CUORIENT	0.46211	0.65197
ENTRE.O	0.48310	0.62948
INTFUNC	0.14190	0.91498
VALUE ADD	0.78393	0.28509
BUSMAINT	0.84358	0.21829

**Factor Score Coefficient Matrix:**

	<b>Factor 1 Loading</b>	<b>Factor 2 Loading</b>
CUORIENT	0.04259	0.33752
ENTRE.O	0.07588	0.30366
INTFUNC	-0.41705	0.77855
VALUEADD	0.56625	-0.20255
BUSMAINT	0.66258	-0.30152

The above results show that when the variables are subjected to a 2-factor solution Varimax orthogonal rotation factor analysis, the variables load significantly on both factors. This mitigates against the former indication that the variables are loading on one factor mainly. To further investigate the loading of the variables, they were subjected to a 2-factor solution Oblima oblique factor analysis, and the results were as follows (table 5.22):

**Table 5.22: Summary Results of a 2-Factor Oblima oblique Rotation Factor Analysis Using the Components of Marketing Orientation and Entrepreneurial Orientation.**

**Pattern Matrix:**

	<b>Factor 1</b>	<b>Factor 2</b>
CUORIENT	0.31179	-0.58608
ENTRE.O	0.34322	-0.55331
INTFUNC	-0.14122	-0.99476
VALUEADD	0.80106	-0.05844
BUSMAINT	0.89135	0.03798

**Structure Matrix:**

	<b>Factor 1</b>	<b>Factor 2</b>
CUORIENT	0.62918	-0.75493
ENTRE.O	0.64286	-0.73918
INTFUNC	0.39750	-0.91828
VALUEADD	0.83271	-0.49226
BUSMAINT	0.87078	-0.44473

**Factor Score Coefficient Matrix:**

	<b>Factor 1</b>	<b>Factor 2</b>
CUORIENT	-0.06323	-0.37026
ENTRE.O	-0.01399	-0.32035
INTFUNC	-0.73454	-1.02927
VALUEADD	0.71403	-0.42341
BUSMAINT	0.85690	-0.56898

The above shows that the variables are loading on more than one factor. This further confirms that marketing orientation and entrepreneurial orientation are not one and the same construct, but two different constructs, even in the relatively young facilities management industry.

Most of the components used to measure marketing orientation in this study are largely developed from scale items previously used for the same purpose. This and the fact that the construct developed is different from similar and related but different constructs like entrepreneurial orientation, helps to

provide discriminant validity to the construct developed. These considerations help to confirm that the construct is measuring marketing orientation, and not just some halo good management policy.

To investigate the relationship between the two distinct constructs of marketing orientation and entrepreneurial orientation, they were subjected to correlation analysis. This produced a correlation coefficient of 0.6405 that was significant at 95% confidence. This shows that marketing orientation and entrepreneurial orientation are significantly positively related. Despite the above showing that market orientation and entrepreneurial orientation are positively related, no causal ordering can be assumed from the above analysis.

Value-added orientation which has qualified empirically as a component of marketing orientation is realised in organisations by various approaches involving entrepreneurial traits. Approaches to its realisation are discussed below.

### **5.7 Approaches to Value-added Orientation**

From the analysis in this chapter, value-added orientation is established as a key dimension of marketing orientation in the facilities management industry. Nevertheless, it was further investigated using interviews with six respondents. The reason for this is to reinforce the findings of the quantitative analysis and to investigate the approaches to its realisation.

**What strategies do you use to make sure customers give a high rating to your services?.**

In chapter four, it was hypothesised that value-added orientation is a component of marketing orientation. This was later shown empirically to be true in this chapter. During the interviews, the issue of value-added orientation was investigated. The dimensions investigated under value-added orientation included the mechanisms used by the organisations to ensure that customers

give the highest rating to their services, creation of value impression, and customer expectation management. The reason for picking up the issue of value-added orientation is that it is a new component identified, hence it is appropriate to investigate strategies adopted for its realisation. This could not be easily done using the positivist approach. Unlike value-added orientation, the issue of business maintenance was not investigated in the interviews. The reason for this is that business maintenance is made up of elements of profit orientation and long term focus that are well established in the marketing literature. The new focus was in combining them in one component to form business maintenance.

The interviews indicated that the approaches adopted by the organisations to ensure that customers give highest rating to their services are varied. In the interview sample, only one respondent stated that his organisation uses training/supervision as a means of ensuring a more proactive identification with customers than the competition.

*'To ensure that customers give the highest possible rating to our services, the first and foremost thing is to have quality staff. The quality staff must be well paid to do the job. This might be complemented with adequate supervision'* (Managing Director, Company A).

While talking about the customers, only one firm differentiates its customers based on the amount of fees they generate from having the customer (customer profitability). In this firm, greater effort is put in getting the highest possible rating from the major customers in terms of fees accruing to the firm.

*'To get a high rating for our services, particularly for the clients from whom we generate a lot of fees, we try to know them well, try to make sure what we are offering is what they want. We give a standard service to all the customers, but the major fee providing clients, we try to deal with them on a one to one basis'* (Associate Director, Company B).

The interviews also indicate that where the acceptable standard of a product or service is well known by the customer, little effort is put to make sure the customer gives the highest rating to the service provided.

*'It is our business to assist companies in their management in terms of quality so that the companies can be accredited by an international organisation. If we succeed, the customer will give a high rating to our services' (Managing Director, Company D).*

Within the domain of value-added orientation, the organisations take a proactive stance and actively try to manage the expectation of customers. The issue of customer expectation management was investigated with a view to finding out how this is actually done.

#### **What strategies do you use in managing customer expectation?.**

A variety of strategies are used by the organisations to manage the expectations of their customers. Of the six respondents in the interview sample, two said their organisations use a formalised approach to customer expectation management.

*'The expectation of the customer is managed by providing at the beginning a work schedule which states quite clearly to the customer what the cleaners will do on a daily, weekly, and monthly basis. Every client has a tailor made cleaning specification designed to suit the client's needs' (Managing Director, Company A).*

One respondent indicated that at times, they use a form of blackmail to maintain customer expectation within a reasonable band.

*'Certain tenants say 'we want this, we want that'. I say 'I can do it for you, but you have to pay extra for it'. The tenants say 'oh!, that's fine, forget about it' (Associate Director, Company B).*

Another respondent said they try to manage customer expectation with a view to make it synchronise with the possible latent needs of the customer. A typical example was given as follows:

*'The customer in a certain project asked for bids. We realised that the customer did not really know what they wanted. We made a submission but restructured it based on what we thought were the latent needs of the customer. We were the only company of the four tenderers they came back to'* (Senior Staff, Company F).

As part of their value-added orientation activities, the organisations try to create value impression on their customers.

**What strategies do you use to create value impression on customers ?.**

All the respondents in the interview sample hold that their organisation tries to create value-impression on customers by using well bound reports, and proper word processing of reports. Two respondents said they at times lift the customer's logo, from documentation from the customer and superimpose it on their reports. They believe this gives the impression to the customer that they are being given a special and personalised attention. One organisation uses general presentation to create value impression on customers.

*'We create value impression on the customer by having a significant presence in the buildings we manage. Our staff, well dressed in uniforms with our company logo, frequently go to the buildings. This creates the impression on the tenants that we are always around to sort out any problems'* (Associate Director, Company B).

The interviews show that the underlining principle of value-added orientation is present in the organisations as found in the quantitative analysis but different approaches are being used to realise it.



## 5.8 Findings

Using a sample frame from the facilities management industry, two new components of marketing orientation applicable to the facilities management industry were identified. These are business maintenance, which is a decision criterion that encompasses elements of long-term focus and profitability into one component, and value-added orientation which is a behavioural component of marketing orientation.

In-depth interviews with the managers of six organisations within the facilities management industry confirmed the existence of value-added orientation and indicated that various approaches are utilised by the organisations in their value-added orientation activities.

Marketing orientation is reconceptualised and validated to consist of 3 behavioural components namely customer orientation, value-added orientation, and interfunctional co-ordination and one decision criterion namely business maintenance.

In the facilities management industry, competitor orientation is not very significant in the marketing orientation stances of organisations as is the case in other industries (Caruana et al 1995, Greenley 1995a and 1995b, Deng and Dart 1994). Despite this, competitor orientation might assist to provide background intelligence that is useful in the development of some components of marketing orientation such as value-added orientation.

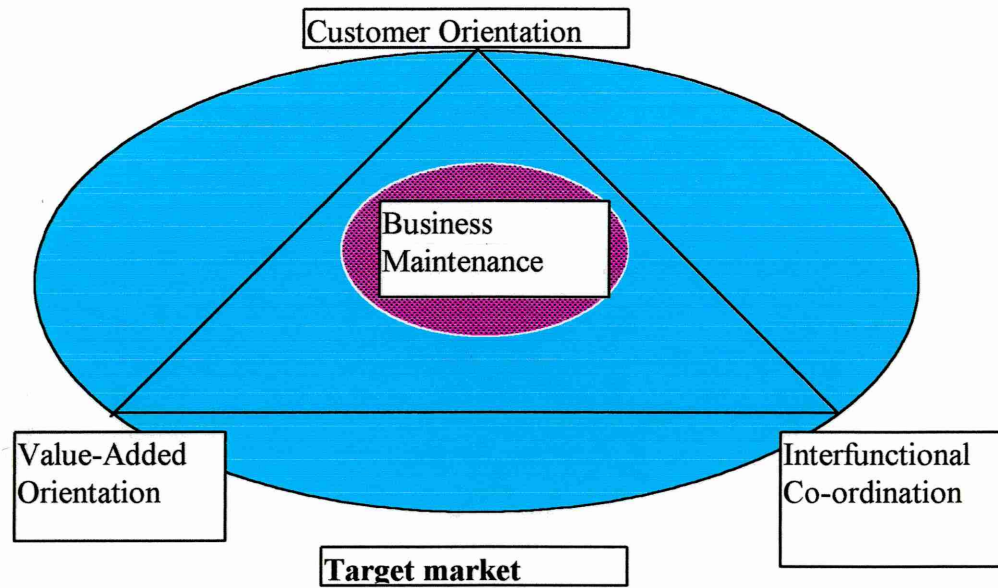
The interviews indicate that the lack of competitor orientation in the facilities management industry is due to many factors. Included in these factors is the fact that most of the managers in the sample saw competitors mainly as price rivals. Lack of competitor information was also cited as one of the main reasons, for the lack of competitor orientation within the industry. The

interviews confirmed interpretatively, the lack of competitor orientation in the marketing orientation stances of the organisations as found quantitatively.

Marketing orientation is positively related to overall performance, and to individual measures of performance such as growth in market share, relative product quality, and profitability. This is in agreement with recent findings by Doyle and Wong (1998). Although the positive relationship between marketing orientation and overall performance is fairly strong, those with individual measures of performance are rather weak. This seems to suggest that overall performance is a better measure of performance in the facilities management industry.

Based on empirical evidence in this study, the components of marketing orientation should be equally weighted when calculating the value of market orientation as suggested by the existing literature but not previously empirically tested. A schematic representation of the new model of marketing orientation developed in this study, showing the importance of the components, is as shown below (figure 5.5).

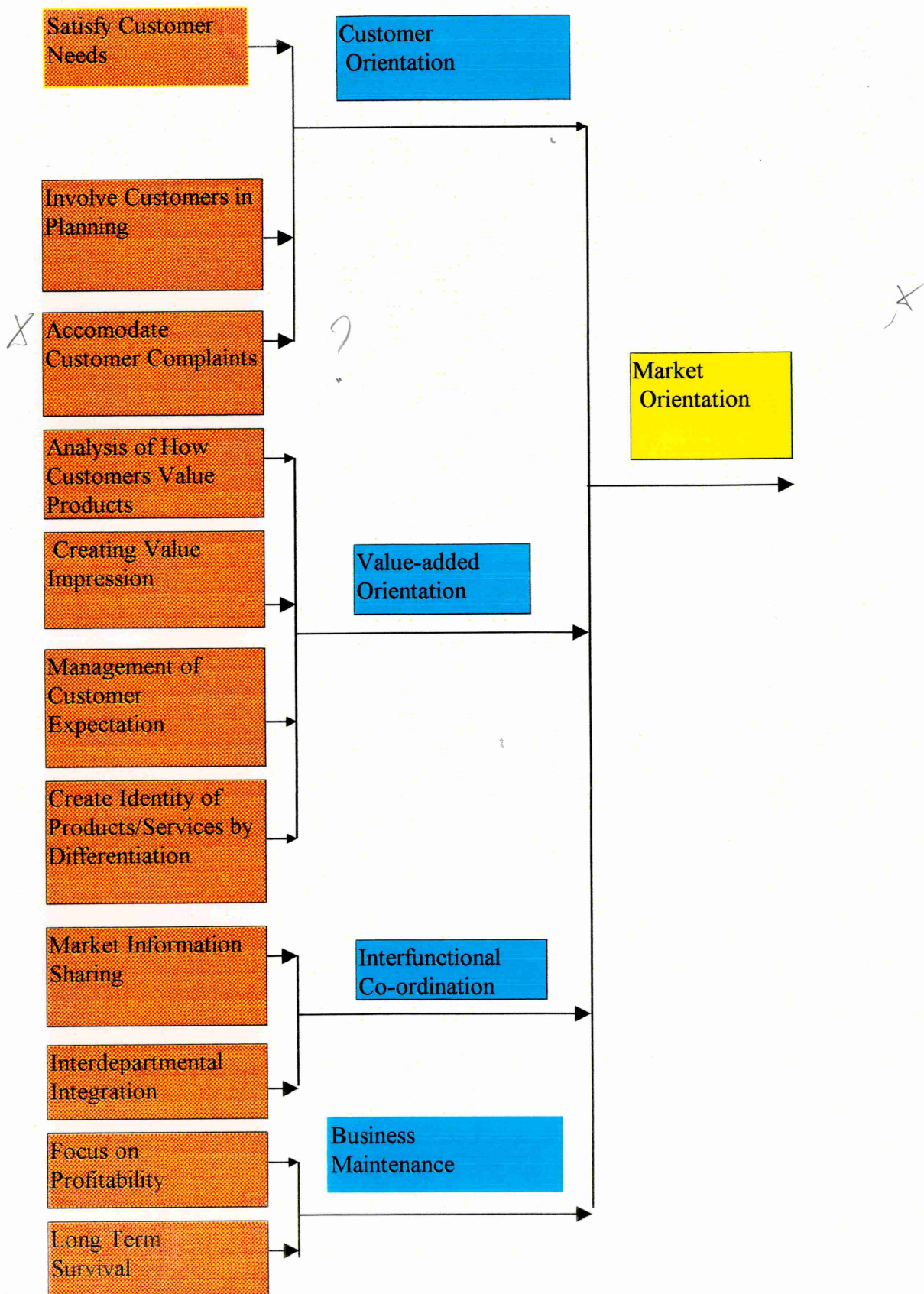
**Figure 5.5: Marketing Orientation Model**



A more detailed schematic representation of the new model or scale of marketing orientation developed can be represented as shown below (figure 5.6).

**Figure 5.6: A Model of Marketing Orientation in the Facilities**

**Management Industry**



Entrepreneurial orientation and marketing orientation, are two distinct constructs, even in a service industry like the facilities management industry that is still in the early stages of its development in the UK. Although marketing orientation and entrepreneurial orientation are two distinct constructs, they are positively related.

## CHAPTER SIX: ANTECEDENTS TO MARKETING ORIENTATION

### 6.1 Introduction

While the previous chapter concentrated on the development of a scale to capture the operationalisation of the marketing concept within the facilities management industry, this chapter will concentrate on investigating antecedents to marketing orientation. The relationship between antecedents and the level of marketing orientation in organisations will be investigated.

It has been argued that one of the concerns about marketing as a management discipline is the ability of organisations to put into practice the policies devised in its name (Meldrum 1996). It is therefore worthwhile to investigate any possible effect that various antecedents might have on the implementation of marketing orientation. This is important because there has been a neglect of research on issues concerning the successful implementation of the marketing concept (Turner and Spencer (1997). Implementation failures also be a result of poor self-assessment by organisations. Most companies think they are marketing oriented and are confident they have the strength to compete with the wolf pack, but in reality, they might be weak and tend to follow the shepherd (Shapiro 1988). The above can lead to a state of marketcide, which is defined as self-inflicted and avoidable harm caused to an organisation due to a lack of attention to and/or poor implementation of marketing concepts and principles (Antil 1993).

The reasons why organisations are not marketing oriented include the following (Masiello 1988):

- ◆ Functional areas do not understand the concept of being market driven. Lichtenthal and Wilson (1992) assert that for an organisation to act in accordance with the marketing concept, it must inculcate and transmit the appropriate values and create a set of norms to guide behaviour.

- ◆ Most employees do not know how to translate their classic functional responsibilities into market/customer responsive actions.
- ◆ Most functions do not understand the role of other functions.
- ◆ Employees in each functional area do not give a meaningful input into the marketing direction of the organisation.

Particular attention will be paid to internal antecedents to marketing orientation since they are within the realm of control of managers. Internal antecedents to marketing orientation are the organisational factors that enhance or impede the implementation of the business philosophy represented by the marketing concept (Kohli and Jaworski 1990).

Since the seminal work of Jaworski and Kohli (1993) where many antecedents to marketing orientation were identified, the marketing literature has largely neglected this area of research. This reinforces the need to investigate if any useful antecedents can be identified. Antecedents can be thoroughly examined and adjusted before or during the implementation process to make sure that the organisational factors can accept and maintain the marketing concept. This is analogous to what happens in the building construction process. Before a building is designed and built, there is usually an on-site investigation to check the type of soil and other factors that might affect the load bearing capacity of the soil. This is to make sure that the building will stand firm.

The issue of implementation can be looked at from two dimensions namely:

- ◆ the implementation process itself; and
- ◆ antecedents to marketing orientation.

In this study, the first dimension is looked at using a holistic approach where critical success factors are described in a holistic manner. The second dimension is approached by discussing established antecedents and carrying out analysis to identify new ones. Three new antecedents are proposed and tested.

## **6.2 Holistic Description of Activities that can affect the Implementation of the Marketing Concept in the Facilities Management Industry.**

While it might seem easy to become marketing oriented in theory, in practice it might prove quite difficult. Extensive training and development of the work force might be necessary. The facilities management industry has not yet developed strong industrial habits and culture hence, the education of the work force in customer satisfaction principles is very important in instituting such an orientation. Based on an analysis of the literature and particularly the works of Richard et al (1993), Hayden (1992), Norris (1991), and Hardy (1988), a synthesis of key success factors for the implementation of the marketing concept that might be applicable in the facilities management industry are proposed below:

- ◆ Top management understanding and commitment: This might involve having a board (if it exist) that supports market-driven approaches and a strategic vision in the implementation of the marketing concept. The executive director must provide effective and forward-looking leadership where marketing orientation holds a pride of place. He/she must engage in sound strategic thinking as an initial catalyst to becoming more market driven. Top management emphasis is important because they are responsible for providing the strategic focus for the organisation. This emphasis is considered as an antecedent to marketing orientation and will be discussed in detail later.
- ◆ Strong and open culture that would help in the dissemination of market information. This will involve the use of consensus around a marketing oriented corporate culture, and the understanding of the internal and external resistance that might be encountered when converting the organisation to be market driven.
- ◆ Understanding of market philosophy throughout the organisation. This can be achieved by constant training and education of staff on the merits of marketing orientation and the consequences of failure. Training sessions



must also try to educate staff on operational issues to becoming more marketing oriented and not just a lethargy of marketing oriented concepts that cannot be easily practicalised. If the organisation is part of a bigger establishment as is the case for some facilities management organisations, the training must be across the whole organisation. It will be difficult for the facilities management department to be really marketing oriented when the rest of the establishment is not.

- ◆ Adoption of internal marketing. This involves the treatment of the worker next in line to whom an employee hands over a product as a customer. A worker when given a task must try to do it to the best of his ability such that when it is sent to a superior, only minimal or no changes at all will be necessary. This involves teamworking and might necessitate the change from individual contributors as is the case in some facilities management organisations to teamworking.
- ◆ Use of market research, understanding of consumer and customer benefits. The organisation should always try to collate information that can or is affecting the market such as changes in customer wants and needs, customer latent needs, and others. The facilities management organisation must realise that with increased education and movements in the market place, the facilities needs of clients will be changing constantly hence adaptability is crucial.
- ◆ Recognition of market segmentation. This might necessitate the facilities management organisation considering say the local government, central government, and the private sector as different segments of the facilities management market requiring different approaches to satisfy their needs and wants. Within say the private sector, the market must be subdivided into relevant segments and a marketing mix devised for each segment.
- ◆ Understand the whole value chain. This involves ensuring contract/service specifications incorporate end user needs. The facilitates management organisation when trying to satisfy the needs and wants of the customer must try to incorporate the needs of the end user of the non core service

they might be managing and not only the needs and wants of the immediate purchaser of their services.

- ◆ The evaluation of services should include consumer outcome measures/benefits. The facilities management organisation must institute systems that can get a good feed back from customers so that services are evaluated from the eyes of the customer. Best service providers should also be well rewarded. The promotion and award of bonuses to senior management and others within the organisation should be partly based on the level of satisfaction expressed by customers and not only on the level of profitability of their respective sections.
- ◆ Empowerment of consumers. This involves including the views of customers in the planning of services and continually updating the services based on the feed back emanating from the customers.
- ◆ Marketing approach to strategic planning should involve major purchasers. The long and short term planning of the facilities management organisations in terms of their dealing clients should be marketing oriented in nature.
- ◆ Devolved management to those implementing the plan, and seek suggestions from the shopfloor. This involves delegating power to those at the organisation-customer interface to act in any manner that is customer oriented. It also involves showing flexibility in solutions. This might involve applying unique solutions to problems when need be and also allowing the trial of new strategies by employees without the fear of the consequences of failure.

While the above is not a hard and fast chronology of events that must be followed in the same order, it is generally accepted that any implementation process should start with top management. Some facilities management organisations or units might not have the authority to implement some of the above steps. In such a situation, partial adoption or adaptation to fit the level of autonomy enjoyed by the particular facilities management SBU is recommended, while the other steps must come from a global re-orientation of

the whole organisation. The implementation must permeate the whole organisation because placing emphasis solely on the company's attitudes, through manipulation of the prevailing system of beliefs, cannot permit marketing orientation to flourish.

In the implementation process, an organisation might concentrate its efforts on the macro or micro aspects of implementation, or a combination of both. In the macro aspect, the organisation might provide the broad and overall framework to adequately serve a customer but leave the actual operational details to the employee concerned. Such an overall framework might be in the form of a formal customer service plan.

Other organisations might concentrate on the micro aspect of implementation. This might involve scenario planning where operational details concerning how to deal with customers in various situations are given to employees. This might be in the form of a written customer service guideline. Other organisations might combine both approaches to varying degrees of emphasis on each.

A thorough Literature search did not reveal any study that has attempted to investigate the relationship between the existence of a formal customer service plan, and/or written customer service guideline, with the level of marketing orientation in firms. An attempt will be made to close this gap as shown below.

### **6.3 Marketing Orientation and the Existence of a Formal Customer Service Plan**

The effect of having a formal customer service plan on the level of marketing orientation was investigated to see if such a procedure had any significant effect on the level of marketing orientation of the organisations. If management can devote resources to devise a formal customer service plan,

they are likely to be inclined on insisting that it be followed. The existence of such a plan also shows that the organisation knows the importance of being marketing oriented. It gives the overall framework but leaves the discretion (both routine and creative) to the employees hence, empowering them to act in self-determined ways adequately serve the customer. Existence of a formal customer service plan might have the effect of indicating the level of top management emphasis on marketing orientation in the day to day activities of the organisation. This is important because an organisation can be considered as a reflection of its top management. Since top management emphasis is positively related to the level of marketing orientation (Jaworski and Kohli 1993), it is hypothesised that the existence of a formal customer service plan is positively related to the level of marketing orientation of the organisation. The hypothesis can be summarised as shown below

**Null Hypothesis Ho:** The mean of the level of marketing orientation of organisations with a formal customer service plan is not significantly different from that of those without one.

**Hypothesis Four:** The mean of the level of marketing orientation of organisations with a formal customer service plan is significantly higher than that of those without one.

Out of the 107 respondents, 76 (71%) said they have in place formal customer service while 31 (29%) said they did not. This indicates that a formal customer service plan is widely used in the industry.

Since the sample size was above 30, the z-statistics was used to investigate the above hypothesis and a summary of the results is as shown below (table 6.1)

**Table 6.1: Z-Test: Two Sample for Means of Organisations with and those without a Formal Customer Service Plan**

	<b>Organisations without a Customer Service Plan</b>	<b>Organisations with Customer Service Plan</b>
Mean	94.5526	86.5161
Known Variance	173.7651	165.5340
Observations	76	31
Hypothesised Mean Difference	0.0000	
z	2.9101	
P(Z<=z) one-tail	0.0018	
z Critical one-tail	1.6449	
P(Z<=z) two-tail	0.0009	
z Critical two-tail	1.9600	

The above shows a z-value that is greater than the critical z-value for both one and two tail tests hence, we reject the null hypothesis. This implies that there is a significant higher level of marketing orientation within organisations that have a formal customer service plan, than in those organisations and firms without any. It must be noted, however, that the existence of a formal customer service plan may indicate but by itself is not conclusive evidence that a firm is marketing oriented. Some organisations may put in place such plans that cannot be implemented, or may have such systems in a 'me-too strategy' i.e. doing what leading competitors are doing. This is called a 'lip-service' approach to marketing orientation (Nwankwo 1995). However, where the formal customer service plan is well grounded and epitomises the values which drive the organisation, then its existence may be taken as a likely indication that top management recognises and emphasises the need for marketing orientation. This is in agreement with previous studies by Jaworski

and Kohli (1993) who found that top management emphasis is positively related to the level of marketing orientation.

#### **6.4 Marketing Orientation and the Existence of Customer Service Written Guidelines**

While a formal customer service plan can give an indication of the values of an organisation in relation to customers, a customer service written guideline deals with the operational details that employees have to follow. The existence of a customer service written guideline can be used to prescribe the minimum standard that employees must apply when dealing with customers. It can also be used to formalise the process of serving customers with a view to making services more marketing-oriented. This leaves the employees neither with routine nor creative discretion when dealing with customers. Rafiq and Ahmed (1998) state that some authors argue that service employees should have little or no discretion. A typical example is Smith and Houston (1983) who propose a “script based” approach to customer service. A written customer service plan is a typical example of such a “script based” approach. Such standardised “productive line” and “industrialised” approach to service delivery as epitomised by a customer service written guideline might be counter-productive to the marketing orientation stance of the organisation. In previous studies, it was found that formalisation did not have a positive effect on the implementation of marketing orientation (Jaworski and Kohli 1993). Since guidelines might have the effect of formalising behaviour when dealing with customers, the existence of these might not have a positive effect on the level of marketing orientation of firms. The existence of written guidelines might also be an indication of top management emphasis on marketing orientation. This is positively related to the level of marketing orientation of organisations (Jaworski and Kohli 1993). Despite the two sides of the argument, it is likely that written guidelines will have a greater effect in formalising the behaviour and modes of operation of employees than the extent it indicates top management emphasis. The reason for this supposition

is that it has a direct effect on the former and only an indirect effect on the later. Since formalisation is not positively related to the level of marketing orientation of firms (Jaworski and Kohli 1993), it is hypothesised that there will not be a significant difference in the level of marketing orientation between organisations with a written customer service guideline and those without. Despite this hypothesis, for ease of analysis, this was made the null hypothesis as shown below: "

**(Null) Hypothesis Five:** The mean of the level of marketing orientation of organisations with a written customer service guideline is not significantly different from that of those without one.

**Alternate Hypothesis:** The mean of the level of marketing orientation of organisations with a written customer service guideline is significantly different from that of those without one.

From the 107 respondents, 81 (76%) said they have in place written customer service guidelines, while 26 (24%) said they did not. This indicates that in the facilities management industry, customer service written guidelines are widely used. Of the 81 that have customer service written guidelines, only five did not have a formal customer service plan. On the other hand, all 76 firms that had a formal customer service plan also had a written customer service guideline.

The z-test was used to analyse the above hypothesis and the results are as shown below (table 6.2).

**Table 6.2: Z-Test: Two Sample for Means of Organisations with and without a Customer Service Guideline**

	Organisations with written Customer Service Guidelines	Organisations without written Customer Service Guidelines
Mean	93.2840	88.9231
Known Variance	170.8772	215.0329
Observations	81	26
Hypothesised Mean Diff	0.0000	
z	1.3535	
P(Z<=z) one-tail	0.0879	
z Critical one-tail	1.6449	
P(Z<=z) two-tail	0.0440	
z Critical two-tail	1.9600	

Table 6.2 shows a z-value of 1.3535, which is less than the critical z-value for both one tail and two tail tests. This implies that the null hypothesis cannot be rejected hence, the alternate hypothesis is false. The results imply that there is no significant difference in the level of marketing orientation of organisations with a written customer service guideline, when compared to those without as hypothesised. The null hypothesis is true as anticipated and this is in agreement with previous studies, which showed formalisation to be antithetical to the development of a marketing orientation (Jaworski and Kohli 1993).

## 6.5 Organisational size and Marketing Orientation

Organisations within the facilities management industry range in size from small, medium and large. With this heterogeneity in size, the question



therefore is, 'does size matter?'. With over three million small businesses in the UK and large increases in the number of VAT registered firms and self-employed workers since the early 1980s, the application of marketing principles in different organisational size categories is worth investigating (Hogarth-Scott et al 1996). Despite this, there is no agreement in the marketing literature concerning the variation in the level of marketing orientation in different size categories of organisations.

On the one hand, it can be argued that large businesses may be less able than smaller ones to adopt a marketing orientation (Narver and Slater 1990). The large organisations are more likely to suffer from organisational rigidities, entrenched customs and value systems, which are not easily changeable. Structural barriers between different departments of large organisations might also adversely affect the adoption of a marketing orientation. Day and Nedunadi (1994) investigated large firms and concluded that generally, there is a scarcity of market driven large firms.

In contrast, the small organisations and firms enjoy the advantages ascribable to smallness, including a flexible culture. Within this, the chief executive officer can easily instil a market-oriented culture hence, a significantly high level of marketing orientation should be expected from the small firms. Hogarth-Scott et al (1996) found that small businesses have a good marketing orientation and are keen to satisfy the needs and wants of their customers. Their study also found that segmentation and targeting was apparent in only few small firms and this had the tendency to be price/quality/social group based. Dunn et al (1986) concluded from an empirical study that the marketing concept is practised as much in the smaller firm as in the larger ones. They state that there is no significant difference between size categories with regard to the operational aspects of market integration, available information or operational efficiency. All the above studies did not isolate the medium size organisations into one group. The conclusions were drawn without taking the position of these organisations into consideration.

Despite the possibility of having a large and rigid structure, the large organisations might have the necessary resources to initiate and implement marketing oriented programmes. They also have the necessary resources allowing staff to attend management seminars and other media of learning, hence a significantly higher level of marketing orientation should be expected from the large firms. It therefore follows that a higher level of marketing orientation should be expected from the large firms (with larger resources), and small organisations (with flexible structures). The medium size organisations on the other hand might not enjoy the benefits of a small and flexible structure, or the benefits of large available resources to learn and implement policies such as the market concept. They should therefore be expected to be less marketing oriented than the small and large organisations.

The issue still remains whether the large firms will be more marketing oriented than the small firms or vice versa. Although a small flexible structure can be important, the effect of large resources in the large firms might be more important than the effect of a small flexible structure in the small firms. The saying goes that 'money talks but millions shout' and also that 'faith can move mountains, but millions can make mountains run'. Therefore, the power of large resources cannot be underrated.

From the above discussion, the following hypotheses can be drawn:

- ◆ that size matters in the marketing orientation stances of organisations;
- ◆ the small and large organisations will be more marketing oriented than the medium size organisations; and
- ◆ the large organisations will be more marketing than the small organisations or at least be equally marketing oriented.

If the above is found empirically to be true, the managerial implication is not for organisations to change their size in the implementation process. By knowing the overall level of marketing orientation within their size category,

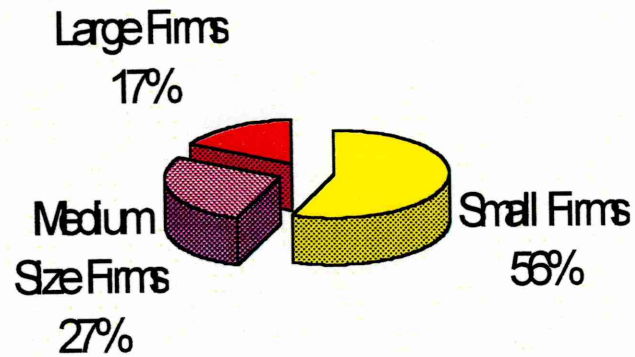
the organisation can take necessary actions to meet or surpass the best hence, maintain a competitive edge. The above hypotheses summarised and investigated below.

**Null Hypothesis Ho:** The small and large organisations are not significantly more marketing oriented than the medium size ones.

**Alternate Hypothesis Six:** The small and large organisations are significantly more marketing oriented than the medium size ones.

In order to investigate these hypotheses, the respondents were requested to classify their organisations in terms of the number of employees in their organisations. The number of employees may be used as a ranking substitute for the magnitude of sales revenue within the firms (Dunn et al 1986). Since by design all the companies are within the facilities management industry, this measure of size can be used to delineate the firms. In a study by Dunn et al (1986), manufacturing firms employing fewer than 25 employees were classified as "small", between 25 and 100 as "medium", and greater than 100 as "large". Staley and Morse (1965) defined small firms as those employing less than 100 workers, medium size firms as those employing 100-249 workers, and large firms as those employing more than 249 workers. Brooksbank et al (1999) defined medium-sized businesses as those employing between 100-500 staff, with a turnover of between £2.5 million to £20 million. In this study, after discussion with managers in the field, organisations with less than 100 workers were considered small, those with between 100 and 500 workers were considered medium-sized and those with above 500 workers were considered large, respectively. Out of the 107 firms in the sample frame, 60 (56%) are within the small category, 29 (27%) within the medium category, and 18 within the large category (17%). This can be represented schematically as shown below (figure 6.1):

**Figure 6.1: Size Distribution of Firms**



In order to investigate the various levels of marketing orientation in the different categories of organisations, a z-test was undertaken between the small, medium and large size organisations. The summary of the results of the analysis is shown below (table 6.3).

**Table 6.3: Z-Test: Two Sample for Means of Small and Medium Size Organisations.**

	<b>Employing 1-100 Employees</b>	<b>Employing 100-500 Employees</b>
Mean	94.3000	86.3448
Known Variance	133.7030	259.9511
Observations	60	29
Hypothesised Mean Difference	0.0000	
z	2.3779	
P(Z<=z) one-tail	0.0087	
z Critical one-tail	1.6449	
P(Z<=z) two-tail	0.0044	
z Critical two-tail	1.9600	

The z-value is 2.3779 while the critical z-value is 1.6449 for one tail test, and 1.9600 for a two-tailed test. The z-value is greater than the critical z-value for both the one and two tail test hence, showing that the null hypothesis that there is no significant difference in the level of marketing orientation between the small and medium size organisations must be rejected. The above shows that small organisations do have a significantly higher level of marketing orientation than the medium size organisations as hypothesised above.

A similar analysis was carried out between the small and large organisations and the results are as follows (table 6.4).

**Table 6.4: Z-Test: Two Sample for Means of Small and Large Organisations**

	<b>Employing 1-100 Employees</b>	<b>Employing More than 500 Employees</b>
Mean	94.3000	94.7778
Known Variance	133.7030	169.1300
Observations	60	18
Hypothesised Mean Difference	0.0000	
z	-0.1401	
P(Z<=z) one-tail	0.4443	
z Critical one-tail	1.6449	
P(Z<=z) two-tail	0.2221	
z Critical two-tail	1.9600	

The z-value is -0.1401, while the critical z-value is 1.6449 and 1.9600 for one and two tailed test respectively. Since the absolute z-value is less than the critical z-value, it implies that the null hypothesis cannot be rejected, thus the null hypothesis that the mean of the level of marketing orientation in the small and large organisations is not significantly different is accepted. The alternate hypothesis that there is a significant difference between the mean of the level of marketing orientation in the smaller and large organisations is false.

The analysis show that the small organisations are significantly more marketing oriented than the medium size organisations. The mean of the level of marketing orientation of the large organisations is higher than that of the small organisations, but this difference is not significant. This is in agreement with what was found by Dunn et al (1986) who concluded from an empirical study that the marketing concept is practised as much in the smaller firm as in the larger ones. The remarkable thing about the above results is that the level

of marketing orientation of the medium size firms is significantly lower than that of the other two categories. The results are also partially in agreement with a study by Liu (1996), who found that small/medium sized companies in UK manufacturing industry have a lower marketing orientation than large and extra large companies. The results are in agreement with Brooksbank et al (1999) who found that the extent to which medium-sized firms have embraced the marketing concept at the operational level is questionable.

Another possible explanation of the above results is that designating the organisation based on the number of employees might be inadvertently dividing them into different types. A typical example is the consultant facilities management organisations that generally employ fewer workers. Most consultant firms will tend to fall within the small size group category. The contracting organisations will generally fall within the group of large organisation. This brings in the possibility that the differences observed in the level of marketing orientation might be a function of the type of business activity undertaken. In order to eliminate this possibility, types of business activities specified by the organisations were checked and this revealed that within each group, organisations from different types of business activities were represented.

## **6.6 Antecedents to Marketing Orientation**

Most empirical studies that exist within the marketing literature are primarily concerned with the extent to which organisations have adopted the marketing concept, rather than the antecedents or consequences of marketing orientation. Internal organisational factors and also external factors such as competitive intensity are antecedents of marketing orientation (Lusch and Laczniak 1987). Jaworski and Kohli (1993) assert that marketing orientation has top management emphasis, interdepartmental factors and organisational systems as antecedents. Employee involvement and company performance are the consequences, with environmental factors moderating the relationship. While

the marketing world seems to have greatly accepted the antecedents to marketing orientation so far identified, there still remains the question whether more useful antecedents to marketing orientation can be found that can be usefully applied. This issue is of particular importance for organisations within an industry in its early developmental stages such as the facilities management industry that does not yet have a well developed industrial culture. The already identified antecedents will be discussed and new ones proposed and investigated below.

#### **6.6.1 Top Management Emphasis**

As mentioned before, the implementation of marketing orientation should start at the boardroom level and progress downwards with management showing commitment and leading the way. In order to be responsive to changing market needs, there might be the need to introduce new products and services to match the evolving customer needs and expectations. This tendency to introduce new products always carries a higher risk of failure than older established products and services. Jaworski and Kohli (1993) argue that if top management shows the will to take risks and to occasionally accept failures as being a natural by-product of the effort to satisfy customer needs, junior managers will be more willing to propose and introduce new offerings in response to changes in customer needs. A risk averse top management that is intolerant to failures will have subordinates who are less likely to focus on generating or disseminating market intelligence or responding to changes in customer needs (Jaworski and Kohli 1993). Rafiq and Pallett (1996) state that an indirect indicator of marketing orientation is the level of representation of the marketing function at board level hence emphasising the importance of top management emphasis in the development and sustainability of marketing orientation within an organisation. Feinkelstein and Hambrick (1996) argue that leaders vary in their experiences, capabilities, values and personalities. These differences, in turn, cause executives to differ in their awareness and interpretation of strategic stimuli, their aspiration levels, their beliefs about



causation, and even their beliefs about what it is they are trying to accomplish and how urgent it is. Since an organisation can be considered as a reflection of its leader, top management emphasis is therefore imperative in the development and maintenance of marketing orientation within an organisation. Even the composition and degree of cohesiveness in the top management team can affect the degree of marketing orientation in an organisation. In a very recent study, Egeren and O'Connor (1998) found a positive and significant relationship between the level of top management team cohesiveness and the degree of marketing orientation in organisations.

### **6.6.2 Formalisation and Centralisation**

Formalisation and centralisation are inversely related to information utilisation. Jaworski and Kohli (1993) found that formalisation of an organisation does not appear to be related to its level of marketing orientation. This result is partly in parallel with the result reported by Narver and Slater (1990) who concluded that programmatic approaches to improving marketing orientation may not be effective. It therefore follows that the decision by top management to implement the marketing concept should be an acceptable rather than a quality decision. A quality decision is one that derives a solution as a direct result of a rigid adherence to the steps in a rationale decision making model. An acceptable decision is one which is arrived at after maximum participation of those who will be charged with implementation and who perceive the decision itself as being one to whose objectives they are committed (Haigh and Morris 1990).

### **6.6.3 Reward Orientation**

The key to developing a market-driven, customer-oriented business lies in how managers are evaluated and rewarded. If managers are evaluated and rewarded on short-term profitability and sales, they are likely to focus on these criteria

and neglect market factors such as customer satisfaction that assure the long-term health of an organisation (Webster 1988).

#### **6.6.4 Interdepartmental Conflict, Connectedness and Departmental Specialisation:**

Jaworski and Kohli (1993) concluded that the following can act as barriers to communication and hence affect the marketing stance of the organisations:

- ◆ the presence or absence of conflict between functions and/or divisions;
- ◆ degree of connectedness of departments since it influences the dissemination of and responsiveness to market intelligence;
- ◆ the level of departmental specialisation; and
- ◆ the level of organisational centralisation and formalisation.

The ultimate marketing orientation is where all employees consider that marketing is part of their job (Canning 1988). Increased contracting out and the death of the 'social contract' have left employees of many facilities management departments within corporate organisations always having the prospect of losing their job. The result of this is that personal self-satisfaction or the fear of job loss, are the only motivations for improved productivity. This can affect the level of marketing orientation of the organisations. For an employee to effectively strive to satisfy the needs and wants of the customer, the employee needs to be committed to his/her work. A high level of demoralised staff can affect the level of interdepartmental conflict and connectedness hence, affecting the level of marketing orientation.

#### **6.6.5 Structural Flux**

A search of the marketing literature revealed that there is no study that has investigated the relationship between the level of structural flux of an organisation and the level of marketing orientation of the organisation. It is important to investigate this because management decision making occurs

within complex and often rapidly changing organisational situations. Factors which have an impact upon the quality of such decision making include the type of organisational structure in which managers operate, and the nature of organisational development and change in relation to both internal and external environments (Gilmore 1996). Organisational theorists are far from agreeing on what organisational structure fully entails (Ford et al 1988). Using a wide definition of organisational structure, the following might be included in it (Gilmore 1996):

- ◆ horizontal and vertical differentiation;
- ◆ division of labour;
- ◆ span of control and spatial dispersion;
- ◆ formalisation; and
- ◆ centralisation and structural differentiation.

Organisational structure may be defined as the enduring characteristics of an organisation reflected by the distribution of units and positions within the organisation and their systematic relationships to each other (James and Jones 1976).

Organisational structures gradually change as a result of circumstances that occur both internally and externally to the organisation. Internally, as the organisation develops, management decision making evolves and managers change. Externally, changes occur as the organisation adapts to the changing environment (Gilmore 1996). The structural dimension of an organisation can involve either the service it produces, or the organisation of the organisation itself. The degree of physical decoupling of the various distinct subgroups within the organisation impacts on the level of functional interdependence (Mahajan and Vakharia 1994).

Structural flux is the rate at which an organisation changes its structure, rules, personnel and procedures. An organisation that is structurally morphogenic (i.e. easily accepts change in its structure), unlike a structurally morphostatic organisation that does not easily accept changes in its structure, will have a

high structural flux. Such an organisation will be better placed to quickly put in place an adequate organisational structure that can quickly and adequately respond to the demands of the market place. The main benefit of adaptability is improved performance. Firms with a high adaptive capability have been found to have different internal response functions and performed better (Oktemgil and Greenley 1997).

An organisation with a high structural flux might be in a position to quickly react to market information and also react proactively to meet the needs and wants of customers. Such an organisation is more likely to encourage open communication channels by constantly re-mixing people and units, hence permitting self-renewal and increased flexibility. This flexibility in turn can aid information dissemination and also responsiveness. This can be extremely important in a changing market since managers often do not recognise that their market has changed and that its original boundaries are no longer accurate (Lele 1997). From this standpoint, therefore, it is hypothesised that structural flux would be positively related to marketing orientation. The above hypothesis can be summarised as follows:

**Hypothesis Seven: Organisations with high structural flux have higher marketing orientation levels.**

Scale items were developed to measure the level of structural flux in the organisations. The scale items considered issues such as the ease of reorganisation of staff, the frequency of reorganisation, interdepartmental mergers and spin-offs, and propensity to bring in external consultants if need be. The mean level of structural flux in the firms was 15.83, with a median of 16, and a mode of 15. The standard deviation was 4.12, hence showing that the organisations are dispersed in terms of their level of structural flux. The maximum score possible of 25 was obtained by one firm. The lowest score obtained was 6 and this was by only one organisation. The sum of the scores by all the organisations was 1694 out of a highest possible score of 2675. This

is 63%. The above indicates that on average, the facilities management industry is not too structurally dynamic.

The scale items were subjected to reliability test to ensure that there is internal consistency in the measure. The reliability analysis of the structural flux measure is as shown below (table 6.5).

**Table 6.5: Reliability Analysis of the Structural Flux Measure: Item-total Statistics**

	Scale Mean if Item Deleted	Scale variance if Item Deleted	Corrected Item-Total Correl.	Squared Multiple Correl.	Alpha if Item is Deleted
FLUX21A	12.2991	12.2305	.4470	.2848	.6714
FLUX21B	12.5234	11.4971	.5195	.3835	.6425
FLUX21C	12.9252	10.3717	.5932	.3871	.6067
FLUX21D	12.4486	10.8535	.5727	.3734	.6183
FLUX21E	13.1308	13.1525	.2398	.0995	.7540

Reliability Coefficients 5 items

Alpha = .7108      Standardised item alpha = .7126

Table 6.5 shows that the reliability of the measure is above the Nunnally (1978) cut off value of 0.7 for such an exploratory study. Simple regression models were constructed using the structural flux of the organisation as the independent variable while marketing orientation, customer orientation, interfunctional co-ordination, value-added orientation, and business maintenance were successively used as dependent variables. The regression equations can be represented as shown below

$$\text{Market Orientation} = \beta_0(\text{Structural flux}) + \epsilon_0$$

$$\text{Customer Orientation} = \beta_1 (\text{Structural flux}) + \epsilon_1$$

$$\text{Interfunctional Co-ordination} = \beta_2 (\text{Structural flux}) + \epsilon_2$$

$$\text{Value-added Orientation} = \beta_3 (\text{Structural flux}) + \epsilon_3$$

Where  $\epsilon_0$  to  $\epsilon_3$  are stochastic or error terms that compensate for other factors that influence the values of the dependent variables, such as other antecedents (both internal and environmental), and measurement errors.  $\beta_0$  to  $\beta_3$  are coefficients of the independent variables. A summary of the regression analysis is as follows (table 6.6).

**Table 6.6: Standardised Regression Coefficients Using Structural Flux as the Independent Variable**

<b>Issues</b>	<b>Mkt Orient.</b>	<b>Cust Orient.</b>	<b>Interf. Coord.</b>	<b>Value- added Orient.</b>	<b>Bus. Maint.</b>
<b>X Coefficient</b>	1.5711	0.2426	0.3119	0.4906	0.5261
<b>R square</b>	0.2281	0.0768	0.1361	0.1413	0.1947
<b>Lower Confidence</b>	1.0119	0.0799	0.1598	0.2564	0.3190
<b>Upper Confidence</b>	2.1303	0.4053	0.4639	0.7247	0.7331
<b>Standard Error</b>	0.2820	0.0821	0.0767	0.1181	0.1044
<b>P value</b>	0.0000	0.01	0.0000	0.0000	0.0000
<b>t-statistics</b>	5.5708	2.9562	4.0672	4.1538	5.0385

The x-coefficient in the regression analysis using structural flux as the independent variable, and marketing orientation and all its components successively as dependent variables are all positive. The R-square value of 0.2281 and the positive x-coefficient in the regression analysis using structural flux and marketing orientation show that organisations with a high level of structural flux have higher levels of marketing orientation. This and the fact that all the p-values are less than 0.05 (95% confidence interval) confirms the hypothesis above, hence structural flux is an internal antecedent to marketing orientation. The significance of structural flux in the models can be seen from the fact that the p-values for structural flux are significant at 0.0000 when

marketing orientation, interfunctional co-ordination, value-added orientation, and business maintenance are made the dependent variables successively. It is significant at 0.01 when customer orientation is made the dependent variable. Another possible antecedent to marketing orientation is teamwork orientation as discussed below.

#### **6.6.6 Teamwork Orientation**

The level of interdepartmental co-ordination can be greatly improved if tasks within an organisation are performed by teams made up of personnel from different functions and departments. Self-directed teams (SDTs) are groups of employees who have been given authority and responsibility in order to perform certain tasks. Members within a group work together in a day to day basis and a group can consist of 5 to about 18 members from different functions or departments within an organisation.

The characteristics of SDTs include the following (Johnson and Chvala (1996): They

- ◆ are responsible for conducting their own training;
- ◆ take responsibility for the quality of their products or services;
- ◆ set their own goals and inspect their own work;
- ◆ order materials, keep inventories, and often deal directly with suppliers;
- ◆ prepare their own budgets and co-ordinate their work with other departments;
- ◆ plan, control and improve their own work process;
- ◆ are empowered to share various management and leadership functions;
- ◆ hire their own replacements and assume responsibility for disciplining their members; and
- ◆ create their own schedules and review their performance as a group.

Building a marketing oriented organisation might necessitate getting everyone involved. For management to be successful in building a marketing-led or

customer driven company culture, it must try to make everyone in the business to believe in it and want it to happen (Brookland 1996). Various companies have recorded successes thanks to team working. Dumaine (1990) reported that Federal Express cut errors by 13% because of teamwork, while Macy et al (1990) studied 70 organisations and found that there was a correlation between behavioural and financial outcomes and SDTs. Although teamworking can increase interdepartmental co-ordination and hence increasing marketing orientation, the primary aim of most organisations in instituting team working seems not to be the need to increase marketing orientation. Wellins et al (1990) studied the primary reasons for organisations moving towards self-directed teams and the result of the study is summarised below (table 6.7)

**Table 6.7: Primary Reasons cited for Moving Towards self-Directed Teams**

Cited as primary reasons	Respondents
Quality	38%
Productivity	22%
Reduced operating cost	17%
Job satisfaction	12%
restructuring	5%
Others	6%

Source: Wellins et al (1990)

Under the heading 'others' i.e. other reasons for moving towards self-directed teams, respondents cited the following:

- ◆ labour costs drop;
- ◆ morale rises;
- ◆ signs of alienation ease;
- ◆ faster response to technological change; and
- ◆ better response to new worker values.



The above study is interesting because no respondent directly cited customer satisfaction, or marketing orientation as their reason for moving towards self-directed teams. This shows that most organisations do not realise the fact that team working, apart from bringing other benefits, can help to increase their level of marketing orientation. Iris (1991) considered teamwork to be one of the most important factors in fostering a marketing orientation and he observed that teamwork had the following advantages:

- ◆ encourages interaction within organisations;
- ◆ eliminates functional specialisation barriers across both functions and departments;
- ◆ results in higher group performance;
- ◆ results to fewer poor decisions;
- ◆ results in idea generation;
- ◆ results in greater involvement;
- ◆ results in improved communication;
- ◆ results in increased enthusiasm; and
- ◆ results to a re-emphasis of corporate objectives

The assets of teams also include the following (Morris et al 1994):

- ◆ greater knowledge, information, experience and expertise;
- ◆ more approaches to a problem;
- ◆ increased acceptance of solutions; and
- ◆ better implementation;

On the other hand, team liabilities include the following (Morris et al 1994):

- ◆ premature decisions;
- ◆ individual domination;
- ◆ conflicting alternative solutions; and
- ◆ prior commitment.

Teamworking might involve employees from various departments and functional units working together to overcome various tasks and this might

positively assist interdepartmental co-ordination and information dissemination. Teamworking can also be used as a means for educating various departmental staff of the importance of marketing orientation and the guidelines to put such an orientation in place. Based on the above, it is hypothesised that teamwork orientation would be positively related to marketing orientation. The above hypothesis can be summarised as follows

**Hypothesis Eight: Organisations with high teamwork orientation have higher marketing orientation levels**

Scale items (questions 22 a to d in questionnaire) were developed to measure teamwork orientation. Respondents were requested to rate their organisations on a 5 point Likert scale. The firms had a mean teamwork orientation of 14.49, a median of 15, and a mode of 15. The standard deviation was 3.19, which shows that the organisations are clustered together in terms of their levels of teamwork orientation. The maximum possible score of 20 was obtained by 4 firms. The minimum score obtained was 5, and this was by one organisation. The sum of the scores was 1550, out of a highest possible score of 2140. This is 72% of the highest sum possible. This indicates that the organisations are fairly teamwork oriented in their business activities.

The scale items were subjected to reliability analysis and the result is as shown below (table 6.8)

**Table 6.8: Reliability Analysis of the Teamwork Measure: Item-total Statistics**

	Scale Mean if Item Deleted	Scale variance if Item Deleted	Corrected Item-Total Correl.	Squared Multiple Correl.	Alpha if Item is Deleted
TEMWK22A	10.4953	6.9316	.4079	.1862	.6342
TEMWK22B	10.8224	5.5248	.5313	.3375	.5493
TEMWK22C	10.5327	6.0437	.5622	.3379	.5346
TEMWK22D	11.6075	6.9011	.3308	.1309	.6846

Reliability Coefficients 4 items

Alpha = .6720      Standardised item alpha = .6724

The teamwork measure showed a reliability of 0.6720, which is equal to the Nunnally (1978) recommendation only when taken to one decimal place. A decision had to be made whether to accept or reject the measure as being unreliable. It was decided that since when taken to one decimal place the measure meets the Nunnally (1978) cut off, it should be considered as reliable and accepted. In order to investigate the above hypothesis, a series of simple regression analysis were undertaken using teamwork orientation as the independent variable, while marketing orientation and its components were used as dependent variables successively. A summary of the regression analyses is as shown below (table 6.9)

**Table 6.9: Standardised Regression Coefficients Using Teamwork Orientation as the Independent Variable**

Issues	Mkt. Orient	Cust Orient	Interf Co-ord	Value-added Orient.	Business Maint.
X Coefficient	1.7412	0.3659	0.3001	0.5933	0.4818
R square	0.1684	0.1051	0.0758	0.1241	0.0981
Lower Confidence	0.9925	0.1593	0.0973	0.2883	0.1992
Upper Confidence	2.4899	0.5726	0.5030	0.8984	0.7644
Standard Error	0.3776	0.1042	0.10230	0.1539	0.1425
P value	0.0000	0.001	0.01	0.001	0.01
t-statistics	4.6113	3.5116	2.9343	3.8566	3.3799

Table 6.9 shows that the x-coefficients in the regression analyses using teamwork as the independent variable, and marketing orientation and all its components successively as dependent variables are all positive. The x-coefficient when marketing orientation is made the dependent variable is 1.7412, the R-square value is 0.1684, and the x variable (teamwork orientation) is very significant (p-value of 0.0000). This shows that the level of teamwork orientation in an organisation is positively related to marketing orientation. The above proves the hypothesis that organisations with a high teamwork orientation have higher levels of marketing orientation. Based on this, teamwork orientation can be considered to be a positively related internal antecedent to marketing orientation.

#### **6.6.7 Employee Flexibility**

Employee flexibility or multiskilling requires employees to be trained to perform more than one job although they might have one type of job where

they are more specialised. If workers are skilled at more than one task before technical change occurs, they will co-operate with labour-saving technical changes in cases where singly skilled workers will not (Carmichael and Macleod 1993). Multiskilled workers are generally more confident of their ability to secure employment than single skilled employees. In the implementation of any change such as changing the culture of the organisation to be more marketing oriented, the multiskilled workers will not only be more adaptable to change, they will be more willing to accept it. Multiskilling can be achieved by job rotation on the shop floor. Job rotation helps the workers to understand the entire production process so that they can respond to unexpected events without the need to call in supervisors. This characteristic might be very important in dealing with clients where a spur of the moment's decision by an employee might make a great difference in the impression created on a customer. Job rotation, which is possible in an organisation with multiskilled staff can enhance departmental communication, helps interfunctional connectedness, and decrease interdepartmental conflict. These can assist the implementation of the marketing concept within the organisation or firm. Multiskilling can also help to increase the overall awareness of the employees and this might be beneficial to the implementation of marketing orientation. Workers often resist change because they do not understand the output effect, or underestimate its benefits. Akhlaghi and Mahony (1997) state that multiskilling leads to increased labour flexibility and can thus reduce labour costs and increase productivity because fewer 'spares' are needed to cover absence, holiday and staff turnover. They hold that increasing its pool of skill gives an organisation greater flexibility in its allocation of labour to tasks, thereby improving overall efficiency.

Following from the above, it is considered that an organisation that discourages narrow specialisation in staff will end up producing staff that are more informed about what other staff are doing in other departments or functions. This increases the level of interaction between departments and functions and also helps to decrease interdepartmental and functional rivalry

hence, increasing interdepartmental co-ordination, which is a component of marketing orientation. Based on the above, the following hypothesis was formulated

**Hypothesis Eleven: Organisations with high employee flexibility have higher marketing orientation levels.**

Scale items (questions 25a to d in questionnaire) were developed to measure employee flexibility. The organisations had a mean employee flexibility of 14.39, a median of 14, and a mode of 14. The standard deviation was 2.93, which shows that the firms are very closely clustered together in terms of their level of employee flexibility. The maximum possible score of 20 was obtained by 6 organisations. The minimum score obtained was 7, and this was by 2 firms. The sum of the scores was 1540 out of a possible highest sum of 2140. This is 72% hence showing that employees within the facilities management industry are fairly multiskilled.

The employee flexibility measure was subjected to reliability analysis and the results are as shown below (table 6.10)

**Table 6.10: Reliability Analysis of the Employee Flexibility Measure:  
Item-total Statistics**

	Scale Mean if Item Deleted	Scale variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item is Deleted
EFLEX25A	10.7664	5.1619	.4807	.2847	.6784
EFLEX25B	11.0935	4.4817	.6334	.4535	.5770
EFLEX25C	10.9533	4.9129	.6264	.4232	.5887
EFLEX25D	10.3645	6.4980	.3165	.1430	.7556

Reliability Coefficients 4 items

Alpha = .7210      Standardised item alpha = .7147

The analysis produced a cronbach alpha of 0.7210, which is above the Nunnally (1978) cut-off value hence, it can be considered reliable. Simple regression analyses using employee flexibility as the independent variable and marketing orientation and its components as the dependent variable successively were conducted and a summary of the results is as follows (table 6.11):

**Table 6.11: Standardised Regression Coefficients Using Employee Flexibility as the Independent Variable**

<b>Issues</b>	<b>MKT Orient.</b>	<b>Cust. Orient.</b>	<b>Interf. Co-ord</b>	<b>Value-added Orient.</b>	<b>Bus. Maint.</b>
X Coefficient	2.2992	0.3864	0.3106	0.3997	0.5371
R square	0.2111	0.1668	0.1155	0.0801	0.1736
Lower Confidence	1.0226	0.2193	0.1443	0.1377	0.3104
Upper Confidence	2.2451	0.5535	0.4769	0.6617	0.7639
Standard Error	0.3083	0.0843	0.0839	0.1321	0.1144
P value	0.0000	0.001	0.001	0.01	0.0000
t-statistics	5.3001	4.5842	3.7032	3.0247	4.6971

The above results show that the X-coefficients in the regression analyses where employee flexibility was made the independent variable and marketing orientation and its components were successively used as dependent variables are positive. The x-coefficient is 2.2992, the R-square value is 0.2111, and the independent variable (employee flexibility) is very significant (p-value of 0.0000) when marketing orientation is made the dependent variable. This proves the above hypothesis that organisations with a high level of employee flexibility have higher levels of marketing orientation. Based on the above,

employee flexibility is a positively related internal antecedent to marketing orientation.

### **6.7 Forms of Marketing Orientation within the Facilities Management Industry**

From the descriptive statistics of the various internal antecedents to marketing orientation, it can be seen that the various antecedents exist at different levels in the various organisations. For a relatively young industry as Facilities Management, the firms within it might be exhibiting different forms of marketing orientation. This might be because the industry is young and an industrial culture has not developed that can significantly tailor the orientation of the organisations in one direction or another. On the other hand, the relative youthful nature of the industry might make the organisations to be lacking in certain common characteristics (for example competitor orientation) and be strong in others hence, making the organisations to exhibit the same form of marketing orientation. The likelihood of the both sides of the argument leads to the following question.

**Question Two: What forms of marketing orientation exist in the facilities management industry and what differentiates the various forms?.**

Greenley (1995) analysed forms of marketing orientation in a random sample of UK organisations having more than 500 employees from the Dun and Bradstreet database of UK companies. He found 5 different forms of marketing orientation in the organisations which he characterised as follows:

- ◆ Customer focus orientation;
- ◆ Undeveloped market orientation;
- ◆ Fragmented orientation;
- ◆ Comprehensive Market Orientation; and
- ◆ Competitive focus orientation.



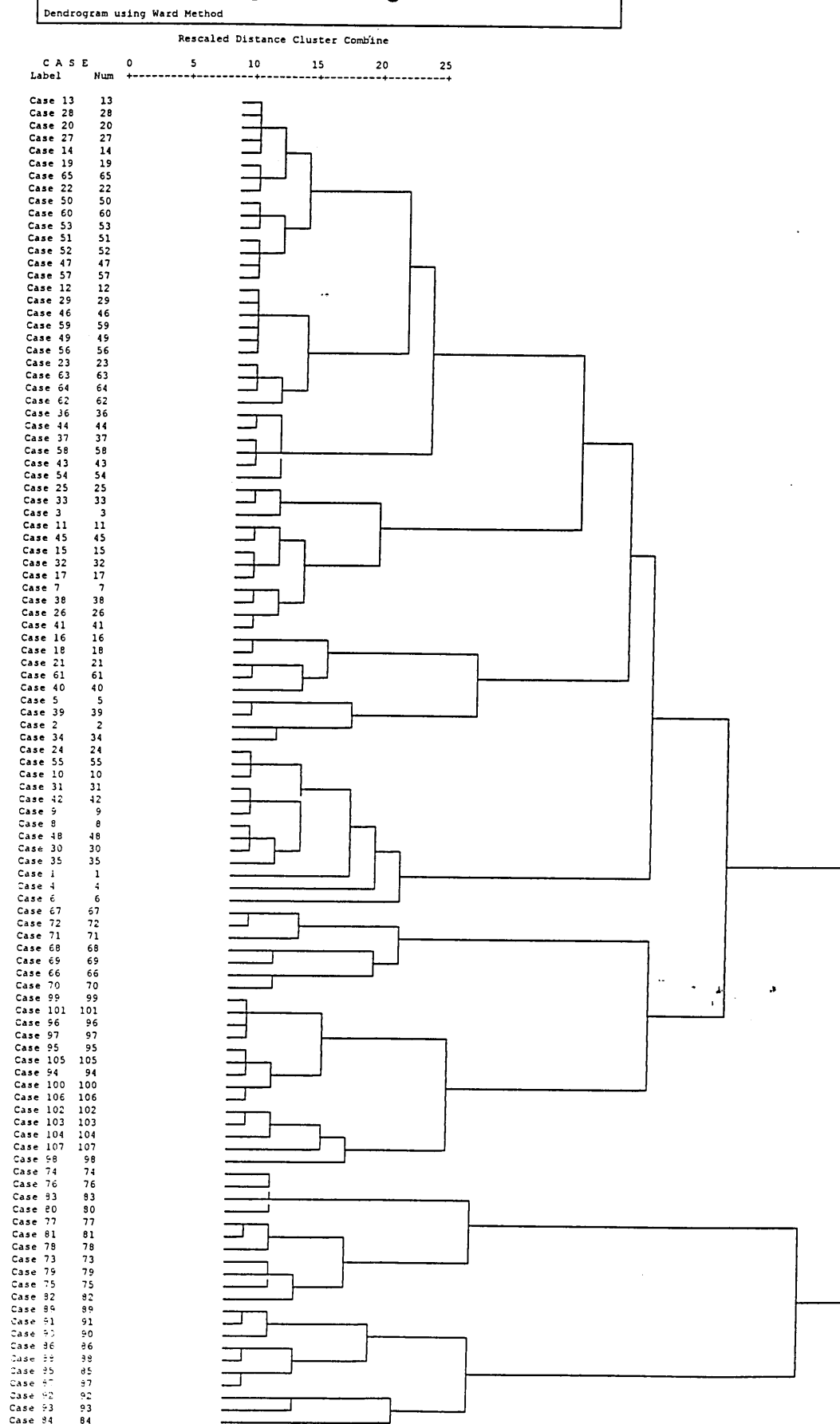
In order to facilitate the investigation of question 2, the question was broken down into the following two sub-questions

**Question Two (a): What forms of marketing orientation are in the facilities management industry?**

**Question Two (b): What differentiates between the various forms.**

In order to answer question 2a, the scores of the respondents were subjected first to factor analysis, and the factor scores were saved as variables (Saunders 1980). The factor scores were then subjected to cluster analysis. The Ward's clustering method was applied on the saved factor scores, and a dendrogramme showing the various clusters and the distance between the clusters was produced. The choice of Ward's hierarchical clustering routine to identify and isolate similar companies and their characteristics was made since this method has repeatedly proved in the past that it is more effective than other methods in data recovery and the generation of compact spherical clusters (Wishart 1987). The dendrogramme produced is as shown below (figure 6.2)

Figure 6.2: Dendrogramme Using Ward's Method



A dendrogramme represents in graphical form the amount of information that will be lost by accepting a particular number of clusters. Looking at the dendrogramme, it seems to suggest the possibility of up to 8 clusters, but the fact that only 1 or 2 respondents were classified in some of the clusters resulted to 5 clusters being accepted. A five cluster hierarchical clustering analysis was undertaken, and the five cluster groups identified are as follows:

#### **6.7.1 Cluster 1: Business Maintenance Orientation (n=65)**

The business maintenance score is significantly high in this cluster. Customer orientation and value-added orientation is also high. In this cluster, particular emphasis seems to be put in making sure the business survives in the long term. Interfunctional co-ordination is the only component where this cluster is not highest, although the value is fairly high. Overall, the mean of the marketing orientation level for this cluster is the highest, hence it is the most marketing orientated cluster in the sample.

#### **6.7.2 Cluster 2: Average Marketing Orientation (n=7)**

This cluster is characterised by average or slightly below average performance in all the components of marketing orientation. Although being of average performance, the cluster shows slightly more than average performance in customer orientation. A poor performance is recorded in value-added orientation.

#### **6.7.3 Cluster 3: Short Term Orientation (n=11)**

This cluster is made up of organisations and firms that perform extremely poor in strategic issues concerning the long term maintenance of their business. Customer orientation is good, while interfunctional co-ordination is poor. Value-added orientation is fairly good in this cluster. The organisations seem

to consider customer orientation to be important, but profitability and long term strategic issues are neglected.

#### **6.7.4 Cluster 4: Poor Marketing Orientation (n=10)**

The organisations in this cluster are poorly developed in all the components of marketing orientation. Customer orientation and business maintenance are very poor. Interfunctional co-ordination, value-added orientation and business maintenance are poor. The members of this cluster have not implemented the marketing concept to any significant degree within their organisation.

#### **6.7.5 Cluster 5: Mature and Balanced Marketing Orientation (n=14)**

The organisations within this cluster are well developed in terms of their marketing orientation, and have successfully implemented knowingly or unknowingly the marketing concept within their organisations. Customer orientation and value-added orientation are extremely well developed in this cluster, while business maintenance is well developed. The remarkable aspect of this cluster is that there is no over performance in one component of marketing orientation that compensates for under performance in another component. The development of all the components is balanced. Although the mean of the marketing orientation level in this cluster ranks second to cluster 1, the development is balanced and mature.

#### **6.7.6 Validity of Cluster Aggregation**

In order to test the robustness of the cluster aggregation outlined above, discriminant analysis was undertaken, and the percentage of "grouped" cases correctly classified into the clusters was 91.59%, hence showing that the clusters are robust. External validity of the robustness of the clusters was investigated by comparing the mean of the overall performance of the various clusters. Since cluster 1 contains most of the organisations, and the fact that

the cluster size of some of the other clusters is small, it was decided to investigate the difference between the mean overall performance of cluster 1, and all the other clusters. In order to conduct the investigation, the following null and alternate hypotheses were developed.

**Null Hypothesis:** There is no statistically significant difference between the mean of the overall performance of organisations in cluster 1, and those in clusters 2, 3, 4 and 5

**Hypothesis:** There is a statistically significant difference between the mean of the overall performance of organisations in cluster 1, and those in clusters 2, 3, 4 and 5

T-tests were conducted, and a summary of the results is as follows (table 6.12):

**Table 6.12: Summary of t-test between Cluster 1 and the other Clusters**

	Cluster 1 and 2	Cluster 1 and 3	Cluster 1 and 4	Cluster 1 and 5
Degree of freedom	7	12	10	18
t statistics	2.7629	2.2673	3.0446	2.7453
P(T≤t) one tail	0.0140	0.0213	0.0062	0.007
t critical one tail	1.8946	1.7823	1.8125	1.7341
P(T≤t) two tail	0.0280	0.0426	0.0124	0.0133
t critical one tail	2.3646	2.1788	2.2281	2.1009

The above shows that the absolute value of the t statistic is greater than the critical t for both one and two tailed test in all the cases. This shows that the null hypothesis that the means of the overall performance of the clusters are the same is false. This implies that the mean of the overall performance of organisations in cluster 1 and the other clusters is significantly different, hence providing an element of external validity to the cluster aggregation. Based on this, the answer to question 3a is that there are various forms of marketing orientation within the facilities management industry.

In order to tackle question 3b, discriminate analysis was used. Greenley (1995) working in another industry, identified 3 factors namely a market intelligence factor that accounted for 50% of the variance, a planning factor that accounted for 35% of variance, and a monitoring and control factor that accounted for 15% of variance in the different forms of marketing orientation. In the industries and model of marketing orientation he used, competitor orientation was significant in the marketing orientation stances of the firms, hence the importance of marketing intelligence (50% of variance explained). In this study, it has been shown that competitor orientation is not at present significant in the marketing orientation stances of organisations in the facilities management industry. This begs the question about the factors that discriminate between the different forms of marketing orientation within this industry.

The issue of factors that discriminate between the different forms of marketing orientation was approached by undertaking discriminant analysis, using the scale items of the various components of marketing orientation and producing canonical functions as shown below (table 6.13. and 6.13a):

**Table 6.13: Results of Discriminant Analysis Using the Scale Items of Market Orientation**

Classification results -

Actual		No of Cases	Predicted Group Membership				
Group			1	2	3	4	5
Group 1	65	61	0	0	0	0	4
			93.8%	0%	.0%	.0%	6.25%
Group 2	7	0	7	0	0	0	0
			.0%	100.0%	.0%	.0%	0%
Group 3	11	0	0	11	0	0	0
			.0%	.0%	100.0%	.0%	0%
Group 4	10	0	0	0	10	0	0
			.0%	.0%	.0%	100.0%	0%
Group 5	14	0	0	0	0	0	14
			.0%	.0%	.0%	.0%	10%

Percent of "grouped" cases correctly classified: 96.26%

		Pct of	Cum	Canon. Wilks'				
Fcn	Eigen Var	Var	Corr Fcn	Lambda	Chi-Sq	df	Sig	
1*	2.5105	39.86	39.86	.8457	: 0 .025343	334.449	100	.0000
2*	1.6329	25.92	65.78	.7875	: 1 .088966	220.174	72	.0000
3*	1.2977	20.60	86.38	.7515	: 2 .234240	132.078	46	.0000
4*	.8580	13.62	100.00	.6795	: 3 .538216	56.374	22	.0001

\* Marks the 4 canonical discriminant functions remaining in the analysis.

**Table 6.13a: Results of Discriminant Analysis Using the Scale Items of Market Orientation (continues)**

**Structure matrix:**

**Pooled within-groups correlation**

	Func 1	Func 2	Func 3	Func 4
PROF18B	.48376*	.40043	.30056	-.01866
PROF18A	.38128*	.20294	.06305	.01125
CUST14C	.35931*	-.26196	-.01797	.08479
LONG17A	.35599*	.14146	-.11941	-.17514
LONG17C	.31098*	.06908	-.22567	-.14210
LONG17D	.23887*	.09246	-.06614	.01512
CUST14B	.19311*	-.10229	-.00027	-.16085
VADD19C	.18667*	-.06204	-.11400	-.14678
VADD19A	.12118	.32124*	.18049	.11203
INTFU16C	.16276	-.16432*	-.08991	-.16290
VADD19G	.01149	.16124*	-.00001	.04939
VADD19H	.01963	.10548*	-.01332	-.00521
INTFU16D	.02962	.04605*	.01173	-.01023
VADD19D	.05288	-.11010	.43599*	-.15148
VADD19E	.05212	-.01628	.33125*	-.14068
CUST14D	.16935	.15661	.25508*	-.00196
INTFU16A	.11975	.07257	-.14342*	.01171
INTFU16B	.06517	.11433	-.14150*	.10854
VADD19F	-.02860	.03590	.11571*	-.02205
CUST14E	.34350	-.35767	.02721	.37376*
CUST14A	.22742	-.14355	.13241	.29336*
LONG17B	.15934	-.08127	-.07541	.28259*
PROF18D	.09264	.21332	-.12596	.26543*
VADD19B	.07004	.13465	.13358	.26459*
VADD19I	.01696	.02501	-.00863	.22015*

\* denotes largest absolute correlation between each variable and any discriminant function.



The above discriminant analysis correctly classifies 96.26% of the cases, hence showing that the model is robust. There are 4 canonical functions in the model. The pooled within group correlation in the structure matrix shows that there are 8 scale items that are classified within function 1, and this accounts for 39.86% of variance in the model. The scale items indicate that the underlining factor in function 1 deals with business survival. The planning in terms of long term survival and profitability seems to be extremely important. This implies that the way organisations and firms go about their business survival strategies account for 39.86% of the variance between the different forms of marketing orientation in the facilities management industry. This is similar to the planning factor that accounted for 35% of variance as identified by Greenley (1995).

The scale items in the second function indicate that this function deals with strategic positioning, where the firm tries to differentiate its products and services from that of the competition, and get the customers to give its products and services the highest ranking possible. This function accounts for 25.92% of the variance in the different forms of marketing orientation in the facilities management industry. This is a factor that had not been previously identified in the marketing literature.

The third factor deals with the form rather than the content of products or services. It deals with the way organisations or firms create value impressions on their customers. The factor involves the sharing of information within departments, with the view of creating value impression on customers. This factor accounts for 20.6% of the variance in the different forms of marketing orientation in the facilities management industry. This again is a factor that had not been previously identified in the marketing literature.

The fourth factor deals with sensitivity to the customers in terms of their changing needs and wants. The factor involves being sensitive to customer

comments and needs, and how to retain the existing customer base. This factor accounts for 13.62% of variance in the different forms of marketing orientation.

## **6.8 Summary**

Small and large organisations are significantly more market oriented than the medium size organisations. Although the mean of the level of marketing orientation of the large organisation is higher than that of the small organisations, the difference is not significant.

There is a significant higher level of marketing orientation within organisations that have a formal customer service plan than in those without one. The existence of a formal customer service plan is an indication that top management recognises and emphasises the need for marketing orientation. The above results are in agreement with previous studies by Jaworski and Kohli (1993) who found that top management emphasis is positively related to the level of marketing orientation of firms.

Paradoxically, there is no significant difference in the level of marketing orientation of organisations with a written customer service guideline, when compared to those without. This is in agreement with previous studies that found formalisation within organisations not to be significantly positively related to market orientation (Jaworski and Kohli 1993).

There are different forms of marketing orientation in the facilities management industry. The different forms are differentiated by four factors namely:

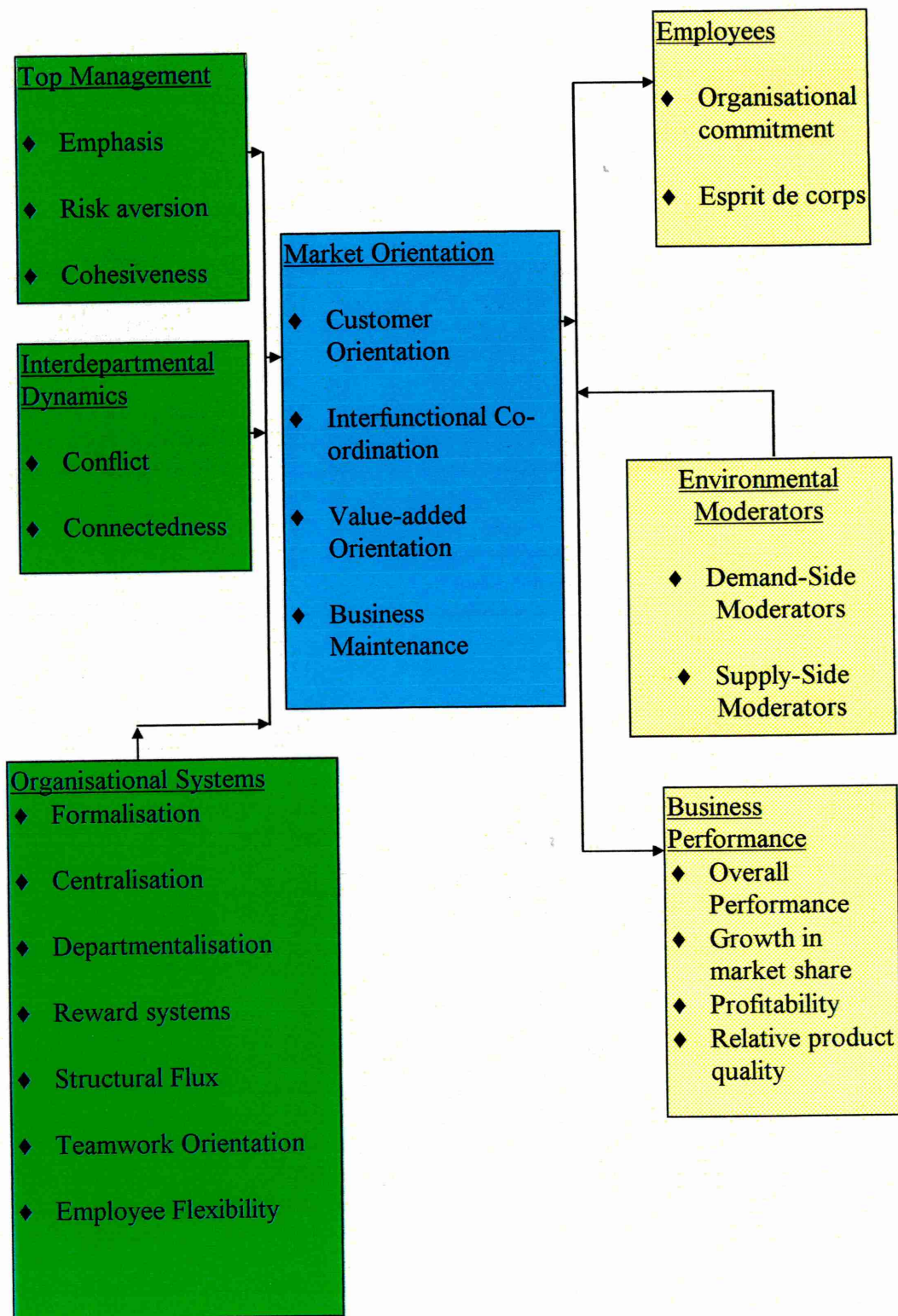
- ◆ a survival factor that accounts for 39.86% of the variance in the various forms;
- ◆ a product/service differentiation factor that accounts for 25.92% of variance;

- ◆ an impression creation factor that centres on the form and not the content of products and services. This accounts for 20.6% of variance; and
- ◆ a sensitivity factor that accounts for 13.62% of variance.

Structural flux, teamwork orientation and employee flexibility are internal antecedents to marketing orientation. Organisations with high levels of structural flux, teamwork orientation or employee flexibility have significantly higher levels of marketing orientation.

Based on the new scale for measuring marketing orientation developed in this study, the new antecedents to market orientation identified, and previous work by Jaworski and Kohli (1993), a new schematic representation of the antecedents and consequences of marketing orientation can be represented as shown below (figure 6.2)

**Figure 6.3: Antecedents and Consequences of marketing orientation**



## **CHAPTER SEVEN: MODEL DEVELOPMENT AND VALIDATION**

### **7.1 Introduction**

One of the aims of this study was to construct a model which can be usefully applied for inter-organisational comparison of marketing orientation stances within the facilities management industry. The thrust of this chapter is the development from first principles of such a model, and the validation of same using various validation techniques. The model is developed using the 107 respondents in the research sample. As part of the model validation process, another set of 24 respondents is used.

### **7.2 Modelling Aim**

As stated above, the aim of the modelling process in this study was to produce a model that can be of practical use in the facilities management industry to assist managers, vis-à-vis their marketing orientation activities. Taking consideration of the hectic working schedule of most managers, it was envisaged that for such a model to gain acceptance in the industry it must be simple to use and the final tool should be graphical in presentation. It was aimed in the modelling process that while complex equations can be used the model derivation, the final tool should be devoid of equations as much as is reasonably practical.

It was also intended that apart from showing the state of marketing orientation in the facilities management industry, the model should also give the comparative position of the organisations in terms of the various components of marketing orientation. This will be extremely helpful to facilities managers, since they can see which component they are weak in, and hence decide to act to remedy the situation. Since it is good for an organisation to be balanced in all the components of marketing orientation in order to create and sustain a competitive advantage in the industry (Day and Nedungadi 1994), it is

important for the manager to know the weak areas for the possible re-allocation of resources.

While being marketing orientation is supposed to be a continuous process in order to create and sustain a competitive advantage, the production of a benchmarking model using cross sectional data can only give a snapshot of the industry at a particular point in time. Such cross sectional models can become outdated with the effluxion of time. This notwithstanding, it is considered that a model based on data representing a cross section of the industry will take a long time, or a major change in the industry, to be completely out of date. It therefore follows that such a model can be useful for a significant length of time.

Being a practically focused model, it was decided that reliability issues in the measurement of the various components of marketing orientation should be built into its design. The relative importance of the various components as seen by facilities managers, and the relative correlation of the various components to overall performance of the organisations were made a part of the fabric of the model. The main rationale for this approach is that these factors should be important in determining the best practices, average practices and weak practices, in terms of marketing orientation. A failure to consider these factors might lead to an ordering of the firms which has little bearing with their overall performance.

Benchmarking can be undertaken in practice using organisations from different and non analogous industries. This type of benchmarking is known as generic benchmarking. It is very outward looking and can lead to significant improvements in organisations. Since this study is exploratory and limited to the facilities management industry, the model being developed is non generic in nature. To simultaneously represent all the components of marketing orientation at the same time on a single graphic representation, it was decided that an arachnoidal representation should be used. This spreads

out the axis of the components as the axis on cobwebs produced by a spider, hence the model in this study is called an 'arachnoidal non generic benchmarking model'. The first three steps in the model building exercise is analogous to that used by Yisa (1995) in the modelling of the marketing function in the construction industry. While equations 1 to 3 in this study are analogous to those used by Yisa (1995), equations 4 to 9 are newly developed.

### **7.3 Model Construction**

Working from first principles, the modelling process is started by investigating the total scores by all respondents on each of the questions used to measure the various components of marketing orientation. Using the 107 respondents, the total score for each scale item can be calculated, by adding the score on each item, for all the 107 organisations. The total scores for the scale items used to measure the components that make up market orientation are as shown below (table 7.1):

**Table 7.1: Total Scores for the Scale Items**

Item	Total Score $(\alpha_{0ic0})$
<b>Customer Orient</b>	
CUST14A	412
CUST14B	371
CUST14C	427
CUST14D	417
CUST14E	462
<b>Interf. Co-ord.</b>	
INTF16A	341
INTF16B	380
INTF16C	377
INTF16D	351
<b>Business maint.</b>	
LONG17A	391
LONG17B	450
LONG17C	414
LONG17D	390
PROF18A	365
PROF18B	340
PROF 18D	410
<b>Value-added. O.</b>	
VADD19A	385
VADD19B	458
VADD19C	452
VADD19D	422
VADD19E	405
VADD19F	365
VADD19G	358
VADD19H	338
VADD19I	387

where  $\alpha_{0ic0}$  is the total score of item i within component co.

The abbreviations CUST14A to VADD19I represent the scale items on the questionnaire in the appendix.



### 7.3.1 Scale Item Contributory Coefficient

Let us assume a model is constructed using all the respondents, and all the scale items used in measuring marketing orientation as shown above. The contribution of a scale item to a component in such a model will be a function of the following:

- ◆ the scores on the scale item by respondents;
- ◆ the number of scale items within the component; and
- ◆ the scores by respondents on the other scale items within that particular component.

The contributory coefficient of each scale item to the component of market orientation to which it belongs in such a model can be calculated as follows:

$$\mu_{oic0} = \alpha_{oic0} / (\varphi X q) \dots\dots\dots(1)$$

where

$\mu_{oic0}$  = the contributory coefficient of scale item  $i$  within component  $c0$

$\alpha_{oic0}$  = the total score for all respondents in item  $i$  within component  $c0$

$\varphi$  is the maximum score on the Likert scale used, i.e. 5, since the Likert scale had a score range from 1 to 5

$q$  is the number of respondents used in the model development i.e. 107

The contributory coefficient of the various scale items within the marketing orientation construct is as shown below (table 7.2):

**Table 7.2: Contributory Coefficient of Scale Items**

Item	Total Score ( $\alpha_{0ic0}$ )	Cont. Coeff. of Scale Items ( $\mu_{0ic0}$ )
<b>Customer Orient</b>		
CUST14A	412	0.7701
CUST14B	371	0.6935
CUST14C	427	0.7981
CUST14D	417	0.7794
CUST14E	462	0.8636
<b>Interf. Co-ord.</b>		
INTF16A	341	0.6374
INTF16B	380	0.7103
INTF16C	377	0.7047
INTF16D	351	0.6561
<b>Business maint.</b>		
LONG17A	391	0.7308
LONG17B	450	0.8411
LONG17C	414	0.7738
LONG17D	390	0.7290
PROF18A	365	0.6822
PROF18B	340	0.6355
PROF 18D	410	0.7664
<b>Value-added. O.</b>		
VADD19A	385	0.7196
VADD19B	458	0.8561
VADD19C	452	0.8449
VADD19D	422	0.7888
VADD19E	405	0.7570
VADD19F	365	0.6822
VADD19G	358	0.6692
VADD19H	338	0.6318
VADD19I	387	0.7234

### 7.3.2 Component Contributory Coefficient

The average of the scale item contributory coefficients within the component gives the component contributory coefficient. This can be calculated by adding the scale items contributory coefficients within a component, and

dividing by the number of scale items within the component. This can be calculated by the following equation

$$C = (\sum_n (\alpha_{ic0}/(\phi x q)))/n \dots\dots\dots(2)$$

Where  $C$  is the component contributory coefficient

$\sum_n$  is summed to the number of scale items within the component,

$n$  is the number of scale items within the component,

and all other terms as previously described.

The component contributory coefficients for all the components are as follows (table 7.3):

**Table 7.3: Component Contributory Coefficients**

Item	Total Score ( $\alpha_{ic0}$ )	Cont. Coeff. of Scale Items ( $\mu_{ic0}$ )	Comp. Cont. Coeff.
<b>Customer Orient</b>			<b>0.7809</b>
CUST14A	412	0.7701	
CUST14B	371	0.6935	
CUST14C	427	0.7981	
CUST14D	417	0.7794	
CUST14E	462	0.8636	
<b>Interf. Co-ord.</b>			<b>0.6771</b>
INTF16A	341	0.6374	
INTF16B	380	0.7103	
INTF16C	377	0.7047	
INTF16D	351	0.6561	
<b>Business maint.</b>			<b>0.7370</b>
LONG17A	391	0.7308	
LONG17B	450	0.8411	
LONG17C	414	0.7738	
LONG17D	390	0.7290	
PROF18A	365	0.6822	
PROF18B	340	0.6355	
PROF 18D	410	0.7664	
<b>Value-added. O.</b>			<b>0.7414</b>
VADD19A	385	0.7196	
VADD19B	458	0.8561	
VADD19C	452	0.8449	
VADD19D	422	0.7888	
VADD19E	405	0.7570	
VADD19F	365	0.6822	
VADD19G	358	0.6692	
VADD19H	338	0.6318	
VADD19I	387	0.7234	

### 7.3.3 Component Gravity

The component gravity gives an indication of the overall weight within the model attributable to a particular component. The component gravity is the component contributory coefficient rescaled as a ratio of the total of the component contributory coefficients. The component gravity can be calculated as shown below:

$$\Omega_{\text{coi}} = ((\Sigma_n(\alpha_{\text{coi}}/(\phi_{\text{xq}}))) / n) / \mathfrak{a} \quad \text{..(3)}$$

where,

$\Omega_{\text{coi}}$  = the component gravity of component coi

$\mathfrak{a}$  = the sum of the contributory coefficients of all the components i.e.

2.9365

All other terms are as previously defined.

The component gravity of the various components is as shown below (table 7.4):

**Table 7.4: Component Gravity of the Components of Marketing Orientation**

Item	Cont. Coeff. of Scale Items ( $\mu_{0ic0}$ )	Comp. Cont. Coeff.	Component Gravity
<b>Customer Orient</b>		<b>0.7809</b>	<b>0.2659</b>
CUST14A	0.7701		
CUST14B	0.6935		
CUST14C	0.7981		
CUST14D	0.7794		
CUST14E	0.8636		
<b>Interf. Co-ord.</b>		<b>0.6771</b>	<b>0.2306</b>
INTF16A	0.6374		
INTF16B	0.7103		
INTF16C	0.7047		
INTF16D	0.6561		
<b>Business maint.</b>		<b>0.7370</b>	<b>0.2510</b>
LONG17A	0.7308		
LONG17B	0.8411		
LONG17C	0.7738		
LONG17D	0.7290		
PROF18A	0.6822		
PROF18B	0.6355		
PROF 18D	0.7664		
<b>Value-added. O.</b>		<b>0.7414</b>	<b>0.2525</b>
VADD19A	0.7196		
VADD19B	0.8561		
VADD19C	0.8449		
VADD19D	0.7888		
VADD19E	0.7570		
VADD19F	0.6822		
VADD19G	0.6692		
VADD19H	0.6318		
VADD19I	0.7234		

#### 7.3.4 Empirico-Adjusted Component Gravity

As discussed in chapter five, the coefficient of concordance of the rankings of the importance of the various possible components of marketing orientation was low. The value was not enough to theoretically justify different weightings when calculating the value of marketing orientation. Despite this, for practical purposes, it was envisaged that a weighting reflecting the relative

importance of the components is important for the development of a useful and practical model. By using the rankings of the importance of the various components by the respondents and adjusting for the fact that one possible component did not qualify, adjusted weighted rank totals can be obtained. The adjusted weighted rank totals can be put as ratio of their sum, to obtain rescaled importance coefficients. The adjusted weighted rank totals, and the rescaled importance coefficients are as follows (table 7.5):

**Table 7.5: Rescaled Importance Coefficients**

Component	Adjusted Weighted Rank Totals	Final Importance Ranking	Rescaled Importance Coefficient
Customer Orientation	521	1st	0.3167
Value-added Orientation	466	2nd	0.2833
Business Maintenance	368	3rd	0.2237
Interfunctional Co- ordination	290	4th	0.1763
Total	1645		1.0000

Using the rescaled importance coefficients to multiply the component gravity gives the empirico- adjusted component gravity as shown below:

$$(\phi) = (((\sum_n (\alpha_{oic0} / (\phi \times \alpha))) / n) / \alpha) \times \omega_0 \dots (4)$$

where  $\phi$  is the empirico- adjusted component gravity

$\omega_0$  is the rescaled importance coefficient of the component

The empirico-adjusted component gravities can be represented as shown below (table 7.6):

**Table 7.6: Empirico-Adjusted Component Gravity**

Item	Cont. Coeff. of Scale Items ( $\mu_{ic0}$ )	Rescaled Component Importance Coefficient	Empirico- Adjusted Component Gravity
<b>Customer Orient</b>		<b>0.3167</b>	<b>0.0842</b>
CUST14A	0.7701		
CUST14B	0.6935		
CUST14C	0.7981		
CUST14D	0.7794		
CUST14E	0.8636		
<b>Interf. Co-ord.</b>		<b>0.1763</b>	<b>0.0407</b>
INTF16A	0.6374		
INTF16B	0.7103		
INTF16C	0.7047		
INTF16D	0.6561		
<b>Business maint.</b>		<b>0.2237</b>	<b>0.0561</b>
LONG17A	0.7308		
LONG17B	0.8411		
LONG17C	0.7738		
LONG17D	0.7290		
PROF18A	0.6822		
PROF18B	0.6355		
PROF 18D	0.7664		
<b>Value-added. O.</b>		<b>0.2833</b>	<b>0.0715</b>
VADD19A	0.7196		
VADD19B	0.8561		
VADD19C	0.8449		
VADD19D	0.7888		
VADD19E	0.7570		
VADD19F	0.6822		
VADD19G	0.6692		
VADD19H	0.6318		
VADD19I	0.7234		

### 7.3.5 Relia-Empirico-Adjusted Component Gravity

Due to measurement errors, questionnaire design faults, and possible misunderstanding by respondents, some components within the marketing



orientation construct are more reliably measured. It was envisaged that in the construction of any model of practical use, the relative measurement reliabilities should be reflected in the model. The relative reliabilities can be seen by comparing the cronbach alphas obtained for the various components. The cronbach alphas for the components are as shown below (table 7.7), where, Cron1 = the reliability measure of the first half of the sample  
Cron2 = the reliability measure of the second half of the sample  
CronT = the reliability measure of the whole sample

**Table 7.7: Summary of the Reliability Analysis of the Measurement of the Various Components of Marketing Orientation**

Item	Cron1	Cron2	CronT
<b>Customer Orient</b>	<b>0.7330</b>	<b>0.7098</b>	<b>0.7212</b>
CUST14A			
CUST14B			
CUST14C			
CUST14D			
CUST14E			
<b>Interf. Co-ord.</b>	<b>0.7802</b>	<b>0.7545</b>	<b>0.7667</b>
INTF16A			
INTF16B			
INTF16C			
INTF16D			
<b>Business maint.</b>	<b>0.7742</b>	<b>0.7145</b>	<b>0.7387</b>
LONG17A			
LONG17B			
LONG17C			
LONG17D			
PROF18A			
PROF18B			
PROF 18D			
<b>Value-added. O.</b>	<b>0.7433</b>	<b>0.6815</b>	<b>0.7103</b>
VADD19A			
VADD19B			
VADD19C			
VADD19D			
VADD19E			
VADD19F			
VADD19G			
VADD19H			
VADD19I			

The relia-empirico adjusted component gravities can be calculated using the following equation:

$$\mathbf{\bar{A}} = (((\sum_n (\alpha_{ic0} / (\phi_{xq}))) / n) / \bar{\alpha})_x \quad \omega_0 \quad x \delta_{co} \quad \dots (5)$$

where  $\delta_{co}$  = the rescaled internal consistency measure of component co.

measured using the cronbach alpha measure. The rescaling is undertaken by dividing the internal consistency of the various components by the sum of the internal consistency of all the components.

$\mathbf{\bar{A}}$  = the relia-empirico adjusted component gravity.

All other terms as previously defined.

The relia-empirico-adjusted component gravity of the various components is as shown below (table 7.8):

**Table 7.8: The Relia-empirico-Adjusted Component Gravity of the Various Components of Marketing Orientation**

Item	Cont. Coeff. of Scale Items ( $\mu_{0ic0}$ )	Empirico- Adjusted Component Gravity	Relia-Empirico Adjusted Component Gravity
<b>Customer Orient</b>		<b>0.0842</b>	<b>0.0207</b>
CUST14A	0.7701		
CUST14B	0.6935		
CUST14C	0.7981		
CUST14D	0.7794		
CUST14E	0.8636		
<b>Interf. Co-ord.</b>		<b>0.0407</b>	<b>0.0107</b>
INTF16A	0.6374		
INTF16B	0.7103		
INTF16C	0.7047		
INTF16D	0.6561		
<b>Business maint.</b>		<b>0.0561</b>	<b>0.0141</b>
LONG17A	0.7308		
LONG17B	0.8411		
LONG17C	0.7738		
LONG17D	0.7290		
PROF18A	0.6822		
PROF18B	0.6355		
PROF 18D	0.7664		
<b>Value-added. O.</b>		<b>0.0715</b>	<b>0.0173</b>
VADD19A	0.7196		
VADD19B	0.8561		
VADD19C	0.8449		
VADD19D	0.7888		
VADD19E	0.7570		
VADD19F	0.6822		
VADD19G	0.6692		
VADD19H	0.6318		
VADD19I	0.7234		

### 7.3.6 Component Polarity Coefficient

The 'overall performance' of the organisations was calculated by adding the score in various aspects of performance. When subjected to internal consistency analysis, a cronbach alpha value of over 0.7 was obtained which is

the Nunnally (1978) cut-off for such exploratory studies. All the measures of performance were given the same weighting because in the marketing literature, there is no indication of one measure being significantly more important than the other. The various components of marketing orientation show different correlation with overall performance. Common sense seems to suggest that components with the highest correlation with overall performance should be given a higher weighting when classifying organisations. For this reason, any modelling of marketing orientation intended for practical purposes should build in the different correlation of the components, as variously related to overall performance. The correlation matrix showing this is as shown below (table 7.9):

**Table 7.9: Correlation of the Components of Marketing Orientation with Overall Performance**

	CUS. ORIENT	INT FUNCT	BUS MAINT	VALUE- ADD	PERFORM.
CUS. ORIENT	1.0000				
INT FUNCT	0.5344	1.0000			
BUS MAINT	0.5225	0.3897	1.0000		
VALUE-ADD	0.4576	0.4209	0.5046	1.0000	
PERFORM.	0.4245	0.2785	0.4983	0.4368	1.0000

The component Polarity coefficients can be calculated using the following formula.

$$P_{ts} = (((\sum_n (\alpha_{oic0} / (\varphi_{xq}))) / n) / \alpha) \times \omega_0 \times \delta_{c0} \times$$

$$C \dots \dots (6)$$

where  $C$  = the rescaled component/performance correlation,

$P_{ts}$  = the component polarity coefficient,

and all other variables as defined before.

The component polarity coefficients are as follows (table 7.10):

**Table 7.10: Component Polarity Coefficients**

Item	Cont. Coeff. of Scale Items	Relia-Empirico- Adj Comp.Grav.	Comp. Polarity Coefficient
<b>Customer Orient</b>		<b>0.0207</b>	<b>0.0054</b>
CUST14A	0.7701		
CUST14B	0.6935		
CUST14C	0.7981		
CUST14D	0.7794		
CUST14E	0.8636		
<b>Interf. Co-ord.</b>		<b>0.0107</b>	<b>0.0018</b>
INTF16A	0.6374		
INTF16B	0.7103		
INTF16C	0.7047		
INTF16D	0.6561		
<b>Business maint.</b>		<b>0.0141</b>	<b>0.0043</b>
LONG17A	0.7308		
LONG17B	0.8411		
LONG17C	0.7738		
LONG17D	0.7290		
PROF18A	0.6822		
PROF18B	0.6355		
PROF 18D	0.7664		
<b>Value-added. O.</b>		<b>0.0173</b>	<b>0.0046</b>
VADD19A	0.7196		
VADD19B	0.8561		
VADD19C	0.8449		
VADD19D	0.7888		
VADD19E	0.7570		
VADD19F	0.6822		
VADD19G	0.6692		
VADD19H	0.6318		
VADD19I	0.7234		

### 8.3.7 Component Polarity

Rescaling the polarity coefficient over a range from 0 to 1 gives the component polarity. This can be done, by using the following formula

$$P_c = \left( \frac{\sum_n (\alpha_{ic0} / (\phi_{xq}))}{n} \right) / \bar{\alpha} \times \omega_0 \times \delta_{c0} \times \zeta / \sum \dots \dots \dots (7)$$

where  $P_c$  = the component polarity

$\sum$  = the sum of the component polarity coefficients of all the components

All other variables are as previously defined.

The component polarity of the various components of market orientation is as follows (table 11):

**Table 7.11: Component Polarity of the Components of Market Orientation**

Item	Cont. Coeff. of Scale Items ( $\mu_{0ic0}$ )	Component Polarity Coefficient	Component Polarity
<b>Customer Orient</b>		<b>0.0054</b>	<b>0.3335</b>
CUST14A	0.7701		
CUST14B	0.6935		
CUST14C	0.7981		
CUST14D	0.7794		
CUST14E	0.8636		
<b>Interf. Co-ord.</b>		<b>0.0018</b>	<b>0.1123</b>
INTF16A	0.6374		
INTF16B	0.7103		
INTF16C	0.7047		
INTF16D	0.6561		
<b>Business maint.</b>		<b>0.0043</b>	<b>0.2672</b>
LONG17A	0.7308		
LONG17B	0.8411		
LONG17C	0.7738		
LONG17D	0.7290		
PROF18A	0.6822		
PROF18B	0.6355		
PROF 18D	0.7664		
<b>Value-added. O.</b>		<b>0.0046</b>	<b>0.287</b>
VADD19A	0.7196		
VADD19B	0.8561		
VADD19C	0.8449		
VADD19D	0.7888		
VADD19E	0.7570		
VADD19F	0.6822		
VADD19G	0.6692		
VADD19H	0.6318		
VADD19I	0.7234		

### 7.3.8 Component Quantum

The component quantum of the various components of marketing orientation for a given organisation can be calculated as follows:

$$N = (((((\sum_n (\alpha_{oic0}/(\phi \times q))) / n) / \alpha) \times \omega_0 \times \delta_{c0} \times$$

$$C) / \alpha) \times \beta \dots \dots (8)$$

where  $N$  = the component quantum

$\beta$  = the component score of an organisation or firm within the facilities

management industry.

All other variables as previously defined.

An example of the calculation of the component quanta of a randomly selected organisation within the sample is as follows (table 7.12):

**Table 7.12: Calculation of the Component Quanta of Respondent 99**

Respondent	Customer Orient.	Interf Co-ord.	Business Maint	Value added Orient.
Component Polarity	0.3335	0.1123	0.2672	0.2870
Component Score	16	11	27	38
Component Quantum	5.3360	1.2353	7.2144	10.906

### 7.3.9 Marketing Orientation Quantum Relativity

The marketing orientation quantum relativity of an organisation can be calculated by using the following formula:



$$MR = \frac{\sum_z \left( \frac{\sum_n (\alpha_{oic0} / (\phi x q))}{n} \right) \times \omega_0}{\sum (\delta_{c0} \times \zeta) / \beta) \times \beta) / 32.8505 \dots (9)}$$

where **MR** = The Marketing Orientation Quantum Relativity of the Organisation or firm.

32.8505 = the sum of the highest possible component quantum for each component.

$\sum_z$  is summed from 1 to 4 i.e. all the components

all other variables as previously described.

The marketing orientation quantum relativity of the above randomly selected organisation can be calculated as follows:

$$\begin{aligned} MR &= 24.6917 / 32.8505 \\ &= \underline{\underline{0.7516}} \end{aligned}$$

The marketing orientation quantum relativities can be used to rank the organisations in order to determine the worst, average and best practices.

### 7.3.10 Descriptive Statistics

Using the marketing orientation quantum relativity of the various organisations as the basis of comparison, a summary of the descriptive statistics of the various organisations is as follows (table 7.13):

**Table 7.13: Summary of Descriptive Statistics of the Organisations and Firms**

<b>Description</b>	<b>Worst Practice Score</b>	<b>Average Practice Score</b>	<b>Best Practice Score</b>
Customer Orientation Component Quantum	2.3345	5.0025	8.3375
Interfunctional Co-ordination Component Quantum	0.5615	1.4599	2.246
Value-added Orientation Component Quantum	5.1660	12.054	32.0291
Business Maintenance Component Quantum	4.2752	6.4128	12.628
Market Orientation Quantum Relativity	0.3756	0.7589	0.9750

The various descriptive statistics can be represented graphically in the form of an arachnoidal non generic benchmarking model, as shown below (figure 7.1):

**MARKET ORIENTATION QUANTUM RELATIVITY**

**BUSINESS MAINT. COMPONENT QUANTUM**

**CUSTOMER OREINT COMPONENT. QUANTUM**

**VALUE-ADDED ORIENT. COMPONENT QUANTUM**

**INTERF CO-ORD. COMPONENT QUANTUM**

**AVERAGE PRACTICE**

**WORST PRACTICE**

**BEST PRACTICE**

The above model can be used as follows:

1. Using the questionnaire in the appendix (Section B), and scoring your organisation in the scale items in the various components as shown below (table 7.14), calculate the various component scores by adding the scores in each component.

**Table 7.14: Scale Items to be Used to Calculate Component Scores**

Item	Item Score	Component Score
<b>Customer Orient</b>		
CUST14A		
CUST14B		
CUST14C		
CUST14D		
CUST14E		
<b>Interf. Co-ord.</b>		
INTF16A		
INTF16B		
INTF16C		
INTF16D		
<b>Business maint.</b>		
LONG17A		
LONG17B		
LONG17C		
LONG17D		
PROF18A		
PROF18B		
PROF 18D		
<b>Value-added. O.</b>		
VADD19A		
VADD19B		
VADD19C		
VADD19D		
VADD19E		
VADD19F		
VADD19G		
VADD19H		
VADD19I		

2. Multiply the various component scores with their respective component polarity as calculated in equation 7, and shown on table 7.11 to get the respective component quantum
3. Sum the component quanta of all four components.
4. Divide the sum of the component quanta by 32.8505, to get the market orientation quantum relativity of the organisation
5. Plot the component quanta and the marketing orientation quantum relativity of the organisation on the arachnoidal non generic benchmarking

model shown as figure 7.1, to get the relative position of the organisation vis-à-vis the best practice in the facilities management industry.

6. Take action based on the relative position of the organisation on the marketing orientation quantum relativity continuum. Pay particular attention to the components where the organisation is weak.

A guide to the interpretation of the various ranges of marketing orientation quantum relativity is as follows:

#### **7.4.1 Marketing Orientation Quantum Relativity Greater than or Equal to 0.8437**

Organisations within this group are amongst the first-third of firms performing above average in the facilities management industry, in terms of marketing orientation. There are 19 firms from the sample in this band, which equates to 18 % of the organisations. The main concern here should be sustainability of the leading position occupied by the firms. While sustainability is the main issue here, the organisations should also try to get any marginal improvement they can obtain in the level of their marketing orientation quantum relativity. They should avoid any complacency because in the dynamic business world, their leading position can be easily eroded with the effluxion of time. This erosion can be caused by changes in customer attitudes, needs and wants, and also changes in legislation and other environmental factors.

#### **7.4.2 Marketing Orientation Quantum Relativity Greater than or Equal to 0.7984 but Less than 0.8437**

Firms within this group are more than average performers in terms of marketing orientation. There are 17 organisations from the sample within this band, which equates to 16% of the organisations. The main pre-occupation in this group should be to improve their level of marketing orientation, and move to the higher band. While a holistic approach is advocated, members of this

group should also put extra emphasis in the components were they are weak, and try to study from the star performers in the first group, if they can be identified.

#### **7.4.3 Marketing Orientation Quantum Relativity Greater than or Equal to 0.7546 but Less than 0.7984**

Members of this category are average performers in terms of marketing orientation. There are 20 organisations from the sample within this group, which equates to 19% of the organisations. The organisations need to take serious action to improve their level of marketing orientation, in order to rise above the average firm in the industry. The firms in this band cannot claim to be deriving any significant competitive advantage from implementing the marketing concept within their organisations. The reason for this assumption is that the level of marketing orientation within these organisation is only marginally above the average level in the industry. The effect of this marginality can easily be overshadowed by noise emanating from different sources in the industry, hence leaving nothing to be translated to sustainable competitive advantage. It is likely that the firms need to pay great attention to all the components of marketing orientation.

#### **8.4.4 Marketing Orientation Quantum Relativity less than 0.7546**

Organisations within this category are below the industry average in terms of the operationalisation of the marketing concept. There are 51 organisations from the sample within this group. This equates to 47% of the organisations. Most of the firms in this group are just marginally below the industrial average and with little effort, can improve and graduate from this band. It is likely that no attempt has been made to implement the marketing concept within these firms, or the concept has been wrongly implemented. This might be a result of failures in the implementation process itself, or it might be that the right antecedents were not existing for the implementation process to build

on. The chief executives need to take urgent action to adjust the *modus operandi* of the organisation for it to be more customer focused. Perhaps due to the low level of marketing orientation, a total cultural shift might be needed. It is likely that all the components of marketing orientation might have to be considered for improvement.

## **7.5 Model Validation**

The model was validated by adopting four approaches. The first approach involved undertaking worked examples using three organisations within the facilities management industry but outside the sample population. The second approach was to use external validation, where the mean marketing orientation quantum relativity of another sample from the facilities management industry is compared with that of the firms used to develop the model. If there is no statistically significant difference, it would be considered that the model is valid, for it adequately represents the facilities management industry.

The third approach was to undertake a sensitivity analysis to check the stability of the model. A hypersensitive model cannot be considered as a valid model because a small change in one of the input variables can result in a disproportionate change in the final outcome of the model.

Finally, the model was validated, by investigating its criterion validity. It is envisaged that for a model such as that constructed in this study to be valid, the final grading function must have a positive correlation with overall performance. The correlation between the grading function and overall performance must be equal to or greater than that between marketing orientation and overall performance. A failure to satisfy this latter condition defeats the very *raison d'être* of the model.

### **7.5.1 Worked Examples in the Use of Model**

Three worked examples in the use of the model will be undertaken in this section. The organisations used are amongst the six organisations in the in-depth interview sample used in the scale development exercise in chapter five. The organisations are companies B, E, and F, with characteristics as described in chapter two.

#### **7.5.1.1 Worked Example 1 Using Company B**

The scores of the organisation on the various scale items used to measure marketing orientation are as follows (table 7.15):



**Table 7.15: Scale Item Scores of Company B**

Item	Item Score
<b>Customer Orient</b>	
CUST14A	4
CUST14B	3
CUST14C	4
CUST14D	4
CUST14E	5
<b>Interf. Co-ord.</b>	
INTF16A	4
INTF16B	3
INTF16C	4
INTF16D	4
<b>Business maint.</b>	
LONG17A	4
LONG17B	5
LONG17C	5
LONG17D	4
PROF18A	3
PROF18B	3
PROF 18D	3
<b>Value-added. O.</b>	
VADD19A	3
VADD19B	3
VADD19C	4
VADD19D	5
VADD19E	3
VADD19F	3
VADD19G	3
VADD19H	4
VADD19I	3

The component scores are calculated by adding the scores in the various scale items as shown below (table 7.16):

**Table 7.16: Component Scores of Company B**

Item	Item Score	Component Score
<b>Customer Orient</b>		<b>20</b>
CUST14A	4	
CUST14B	3	
CUST14C	4	
CUST14D	4	
CUST14E	5	
<b>Interf. Co-ord.</b>		<b>15</b>
INTF16A	4	
INTF16B	3	
INTF16C	4	
INTF16D	4	
<b>Business maint.</b>		<b>30</b>
LONG17A	4	
LONG17B	5	
LONG17C	5	
LONG17D	4	
PROF18A	3	
PROF18B	3	
PROF 18D	3	
<b>Value-added. O.</b>		<b>31</b>
VADD19A	3	
VADD19B	3	
VADD19C	4	
VADD19D	5	
VADD19E	3	
VADD19F	3	
VADD19G	3	
VADD19H	4	
VADD19I	3	

The various component quanta can be calculated by multiplying the respective component scores with their corresponding polarity, as shown in equation 7 above. The calculations for company B are as shown below (table 7.17):

**Table 7.17: Component Quanta of Company B**

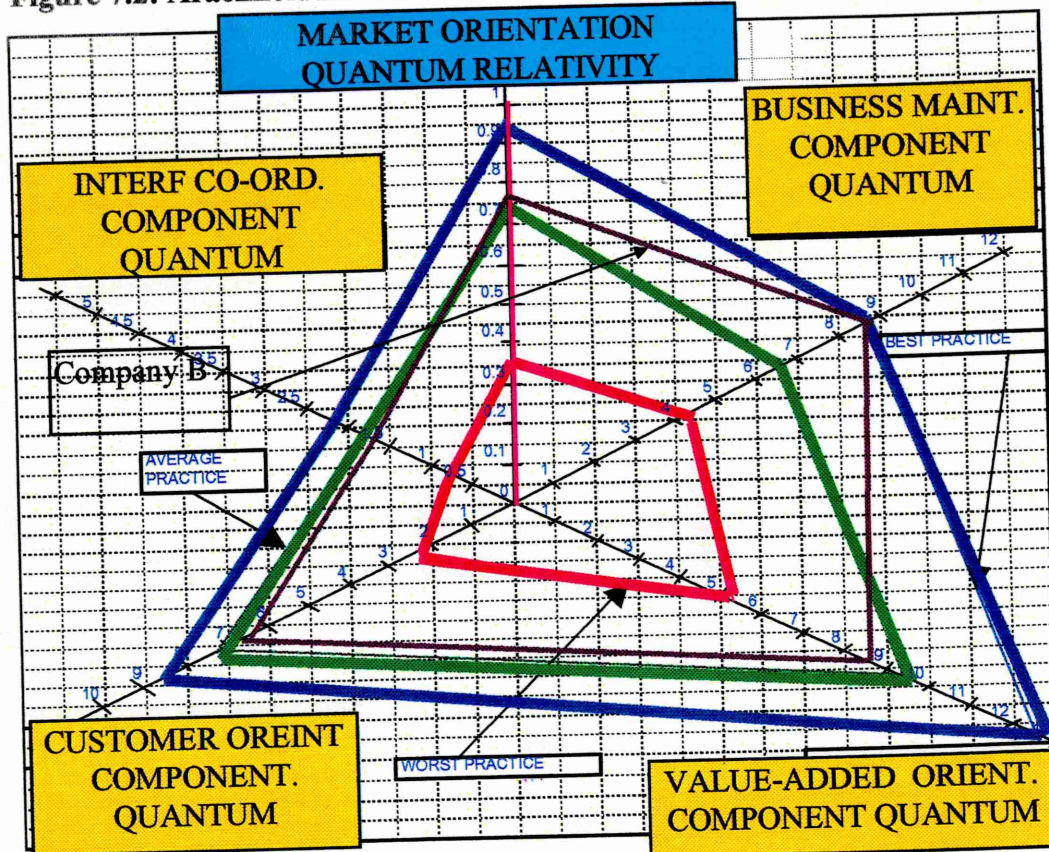
Item	Item Score	Component Score	Component Quantum
<b>Customer Orient</b>		<b>20</b>	<b>6.670</b>
CUST14A	4		
CUST14B	3		
CUST14C	4		
CUST14D	4		
CUST14E	5		
<b>Interf. Co-ord.</b>		<b>15</b>	<b>1.6845</b>
INTF16A	4		
INTF16B	3		
INTF16C	4		
INTF16D	4		
<b>Business maint.</b>		<b>30</b>	<b>8.016</b>
LONG17A	4		
LONG17B	5		
LONG17C	5		
LONG17D	4		
PROF18A	3		
PROF18B	3		
PROF 18D	3		
<b>Value-added. O.</b>		<b>31</b>	<b>8.897</b>
VADD19A	3		
VADD19B	3		
VADD19C	4		
VADD19D	5		
VADD19E	3		
VADD19F	3		
VADD19G	3		
VADD19H	4		
VADD19I	3		

The marketing orientation quantum relativity of company B is calculated by summing all the component quanta and dividing by 32.8505. This is done as follows:

$$\text{Market Orientation Quantum Relativity} = ((6.670) + (1.6845) + (8.016) + (8.897)) / 32.8505 = 0.7692$$

The above can be plotted as shown below (figure 7.2):

**Figure 7.2: Arachnoidal Non Generic Model showing Company B**



The marketing orientation quantum relativity of company B is greater than 0.7546, but less than 0.7984, hence the organisation is an average performer in terms of marketing orientation. The organisation is not very marketing oriented and very little marketing is undertaken in the organisation. One of the reasons for the above is that the company is already an established brand in the market. This helps bring in work that keeps the staff busy and partners can meet their revenue targets without much marketing. This has led to a neglect or complacency in the domain of marketing. The organisation is also complacent because it is enjoying the absence of much competition in the industry.

*'In terms of competitors, we are in a unique position in that non of the other surveying firms in Sheffield can undertake the type of facilities management*

*we do, hence we do not do much marketing'* (Associate Director of company B).

One of the reasons the above organisation is not very marketing oriented is because it does not yet see the importance of putting the needs and wants of its customers at the heart of its activities. At times, the organisation wants customers to accept what is being offered. At times they even employ mild forms of financial blackmail to make customers moderate their request for greater quality service and toe the line.

*'Certain tenants say 'we want this, we want that'. I say 'I can do it for you, but you have to pay extra for it'. The tenants say 'oh!, that's fine, forget about it''* (Associate Director of Company B).

The organisation is particularly weak in value-added orientation. The average value-added orientation component quantum in the facilities management industry is 12.054, but that of company B is 8.897. One of the reasons for this low value of value-added orientation component quantum is that the organisation is very discriminatory when dealing with its customers. An effort is put to create added value for major clients that bring in significant fees. Little is done for the bulk of the rest in terms of value-added orientation. This customer profitability analysis seems to lack moderation in that it is making the company to have a tunnel vision where other important issues are being missed. The organisation concentrates too much on the top few customers and neglects the needs of the many.

*'To get a high rating for our services, particularly for the clients from whom we generate a lot of fees, we try to know them well, try to make sure what we are offering is what they want. We give a standard service to all the customers, but the major fee providing clients, we try to deal with them on a one to one basis'* (Associate Director of company B).

Based on the relative position of the organisation on the marketing orientation quantum relativity continuum, and the relative position on the various component quantum grading functions, company B must put more effort in improving its marketing orientation. Particular attention should be paid to value-added oriented activities, and all discrimination between customers based on the level of fees generated from the customer must be terminated. The emphasis for company B should be improvement not sustainability. If company B does not improve, the benefits it presently enjoys due to low competition in the industry will be eroded as competition increases in the facilities management industry.

#### **7.5.1.2 Worked Example 2 Using Company E**

Company E is a regional firm based in Sheffield operating in the area of facilities management. The firm is heavily biased towards project management, property development and maintenance. The characteristics of the firm are described in chapter two.

The scores of the organisation on the various scale items used to measure marketing orientation are as follows (table 7.18):

**Table 7.18: Scale Item Scores of Company E**

Item	Item Score
<b>Customer Orient</b>	
CUST14A	4
CUST14B	2
CUST14C	3
CUST14D	3
CUST14E	2
<b>Interf. Co-ord.</b>	
INTF16A	3
INTF16B	4
INTF16C	3
INTF16D	2
<b>Business maint.</b>	
LONG17A	1
LONG17B	4
LONG17C	1
LONG17D	1
PROF18A	1
PROF18B	1
PROF 18D	1
<b>Value-added. O.</b>	
VADD19A	2
VADD19B	2
VADD19C	2
VADD19D	3
VADD19E	1
VADD19F	1
VADD19G	1
VADD19H	3
VADD19I	2

The component scores are calculated by adding the scale item scores as shown below (table 7.19):

**Table 7.19: Component Scores of Company E**

Item	Item Score	Component Score
<b>Customer Orient</b>		<b>14</b>
CUST14A	4	
CUST14B	2	
CUST14C	3	
CUST14D	3	
CUST14E	2	
<b>Interf. Co-ord.</b>		<b>12</b>
INTF16A	3	
INTF16B	4	
INTF16C	3	
INTF16D	2	
<b>Business maint.</b>		<b>13</b>
LONG17A	1	
LONG17B	4	
LONG17C	1	
LONG17D	1	
PROF18A	1	
PROF18B	1	
PROF 18D	1	
<b>Value-added. O.</b>		<b>17</b>
VADD19A	2	
VADD19B	2	
VADD19C	2	
VADD19D	3	
VADD19E	1	
VADD19F	1	
VADD19G	1	
VADD19H	3	
VADD19I	2	

The various component quanta can be calculated by multiplying the respective component scores with their corresponding polarity, as shown in equation 7 above. Those for this company are as shown below (table 7.20):



**Table 7.20: Component Quanta of Company E**

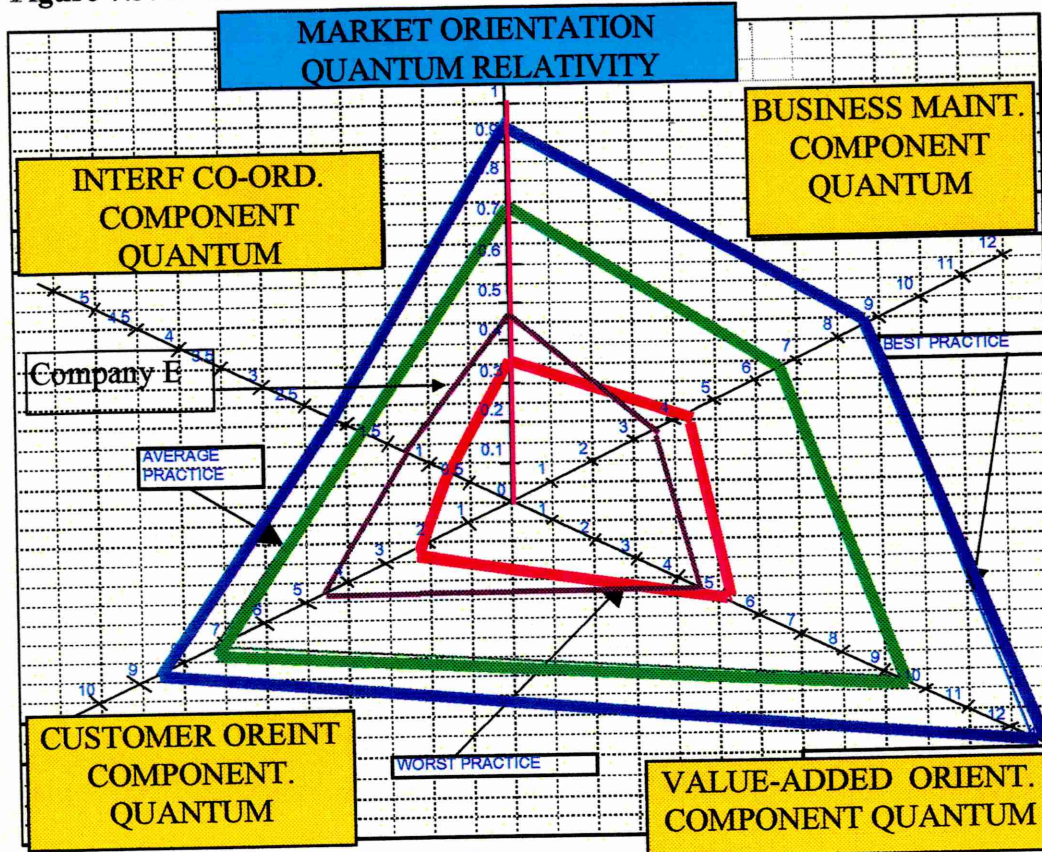
Item	Item Score	Component Score	Component Quantum
<b>Customer Orient</b>		<b>14</b>	<b>4.669</b>
CUST14A	4		
CUST14B	2		
CUST14C	3		
CUST14D	3		
CUST14E	2		
<b>Interf. Co-ord.</b>		<b>12</b>	<b>1.3476</b>
INTF16A	3		
INTF16B	4		
INTF16C	3		
INTF16D	2		
<b>Business maint.</b>		<b>13</b>	<b>3.4736</b>
LONG17A	1		
LONG17B	4		
LONG17C	1		
LONG17D	1		
PROF18A	1		
PROF18B	1		
PROF 18D	1		
<b>Value-added. O.</b>		<b>17</b>	<b>4.879</b>
VADD19A	2		
VADD19B	2		
VADD19C	2		
VADD19D	3		
VADD19E	1		
VADD19F	1		
VADD19G	1		
VADD19H	3		
VADD19I	2		

The marketing orientation quantum relativity of company E is calculated by summing all the component quanta and dividing by 32.8505. This is done as follows:

$$\text{Market Orientation Quantum Relativity} = ((4.669) + (1.3476) + (3.4736) + (4.879)) / 32.8505 = 0.4374$$

The above can be plotted on the arachnoidal non generic benchmarking model as shown below:

**Figure 7.3: Arachnoidal Non Generic Model showing Company E**



The marketing orientation quantum relativity of the organisation shows that it is very weak in terms of marketing orientation. The average marketing orientation quantum relativity in the industry is 0.7589, and that of the worst practice in the sample is 0.3756. A marketing orientation quantum relativity value of 0.4374 shows that company E is one of the least marketing oriented organisations in the industry. When company E is plotted on the arachnoidal non generic benchmarking model as shown above, it can be seen that it is below the industrial average in all the components of marketing orientation.

The organisation was created in 1990, and has changed little during this period. Being a professional consultant firm, it tries to be professional but little is being done to be responsive to the market. It has created a working relationship

with about three main clients since its creation in 1990, and most of the work it does comes from these main clients. Very little is done in terms of improving the company's marketing position. There has been very little growth since its creation. At the time of creation, the organisation had three partners. Eight years later, there are still three partners with little growth in manpower.

Company E is complacent when it comes to being customer-oriented. Attention is put in undertaking the task at hand and not to satisfy the customer. The company is also complacent in its value-added oriented activities. The organisation could not identify any activity that is done to make sure that customers give a high rating to their services.

*'There is no single thing that can be cited that is done for clients to give high rating to our services. I believe that everything the firm does counts'* (Partner in Company E).

In terms of managing the expectations of its customers, company E is not very active. This goes to show that little attention is being paid to the customer.

*'The basic requirement of all customers are the same and what can be done is only to work around the basics'* (Partner in Company E).

The low level of marketing orientation in the company might be because the organisation is more of a product-oriented organism than a marketing oriented one. Great effort is being put to produce a quality service without particular effort to make sure it satisfies the needs and wants of the customers.

*'A good quality service will lead to repeat business and other people will be informed about the good quality service'* (Partner in Company E).

The marketing concept is manifestly absent in this organisation, and little seems to be done to transform the present culture. The organisation needs to

totally change the present culture and become more market responsive. Greater attention needs to be paid to all the components of marketing orientation. The Managing partner does not seem to stress the need for marketing orientation. Education of the management of company E is important to instil in them the need to be marketing oriented. The organisation needs to put more effort in its long-term survival strategy by expanding its client base and not concentrate on few main clients only. The arachnoidal non generic benchmarking model above shows that the organisation is weakest in value-added orientation, hence the greatest effort must be put in this direction.

### **7.5.1.3 Worked Example 3 Using Company F**

Company F is the facilities management unit of a major organisation. It is involved in facilities management consultancy, research and teaching. The characteristics of the organisation are described in chapter two.

The scores of the organisation on the various scale items used to measure marketing orientation are as follows (table 7.21):

**Table 8.21: Scale Item Scores of Company F**

Item	Item Score
<b>Customer Orient</b>	
CUST14A	4
CUST14B	2
CUST14C	3
CUST14D	5
CUST14E	4
<b>Interf. Co-ord.</b>	
INTF16A	3
INTF16B	4
INTF16C	4
INTF16D	5
<b>Business maint.</b>	
LONG17A	4
LONG17B	5
LONG17C	4
LONG17D	4
PROF18A	2
PROF18B	1
PROF 18D	2
<b>Value-added. O.</b>	
VADD19A	1
VADD19B	5
VADD19C	4
VADD19D	3
VADD19E	2
VADD19F	3
VADD19G	3
VADD19H	2
VADD19I	3

The component scores are calculated by adding the scale item scores as shown below (table 7.22):

**Table 7.22: Component Scores of Company F**

Item	Item Score	Component Score
<b>Customer Orient</b>		<b>18</b>
CUST14A	4	
CUST14B	2	
CUST14C	3	
CUST14D	5	
CUST14E	4	
<b>Interf. Co-ord.</b>		<b>16</b>
INTF16A	3	
INTF16B	4	
INTF16C	4	
INTF16D	5	
<b>Business maint.</b>		<b>23</b>
LONG17A	4	
LONG17B	5	
LONG17C	4	
LONG17D	4	
PROF18A	2	
PROF18B	1	
PROF 18D	2	
<b>Value-added. O.</b>		<b>26</b>
VADD19A	1	
VADD19B	5	
VADD19C	4	
VADD19D	3	
VADD19E	2	
VADD19F	3	
VADD19G	3	
VADD19H	2	
VADD19I	3	

The various component quanta can be calculated by multiplying the respective component scores with their corresponding polarity, as shown in equation 7 above. The component quanta for this company are as shown below (table 7.23):

**Table 7.23: Component Quanta of Company F**

Item	Item Score	Component Score	Component Quantum
<b>Customer Orient</b>		<b>18</b>	<b>6.003</b>
CUST14A	4		
CUST14B	2		
CUST14C	3		
CUST14D	5		
CUST14E	4		
<b>Interf. Co-ord.</b>		<b>16</b>	<b>1.7968</b>
INTF16A	3		
INTF16B	4		
INTF16C	4		
INTF16D	5		
<b>Business maint.</b>		<b>23</b>	<b>6.1456</b>
LONG17A	4		
LONG17B	5		
LONG17C	4		
LONG17D	4		
PROF18A	2		
PROF18B	1		
PROF 18D	2		
<b>Value-added. O.</b>		<b>26</b>	<b>7.4620</b>
VADD19A	1		
VADD19B	5		
VADD19C	4		
VADD19D	3		
VADD19E	2		
VADD19F	3		
VADD19G	3		
VADD19H	2		
VADD19I	3		

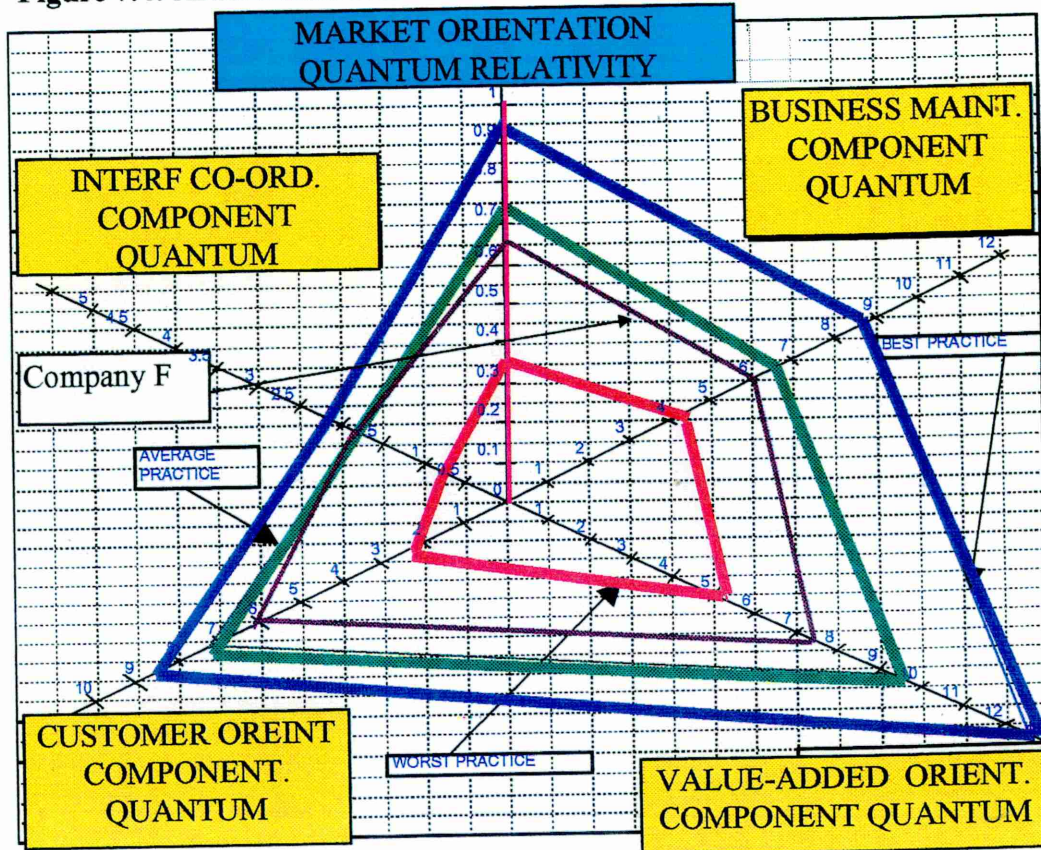
The marketing orientation quantum relativity of company F is calculated by summing all the component quanta and dividing by 32.8505. This is done as follows:

$$\text{Marketing Orientation Quantum Relativity} = ((6.003) + (1.7968) + (6.1454) + (7.462)) / 32.8505 = 0.6517$$



The above can be plotted on the arachnoidal non generic benchmarking model as shown below:

**Figure 7.4: Arachnoidal Non Generic Model showing Company F**



Company F is below the average organisation in the industry in terms of marketing orientation. The average marketing orientation quantum relativity in the facilities management industry is 0.7589. That of company F is 0.6517. This shows that company F is a poor performer in terms of marketing orientation. The organisation performs slightly better than the industrial average in terms of interfunctional co-ordination. In terms of value-added orientation, customer orientation and business maintenance, the organisation is below the industrial average.

The fact that the organisation is a unit of a major institution makes it difficult for the organisation to be adequately responsive to market indicators. Administrative bottlenecks and other hindrances are important inhibiting



factors in the unit. Despite these problems, the unit has been re-focusing itself to the market, although the major changes in the company cannot be directly attributed to the market.

*'The main structural changes in the organisation have been generally imposed on us, such as a senior staff member leaving, hence necessitating the reorganisation of the department'* (Senior staff company F).

The organisation does not have a formal written customer service plan or a written customer service guideline.

*'For a very big organisation, a customer service guideline might be necessary to discipline and standardise services but for a relatively small organisation like ours, it is better to allow every member of staff to use their own personal flair when dealing with customers'* (Senior staff company F).

Company F is poor in marketing orientation and this might be due to the fact that it is too profit oriented. The unit in the recent past was given semi-autonomy in many areas subject to review based on annual financial performance, in relation to the existing business plan of the unit. The employment of some very senior management staff is reviewed annually based on short-term financial performance. This has led the organisation to become too profit oriented and short term oriented in its planning.

The excessive profit orientation of the organisation has resulted in departmental conflict between the two main departments of the organisation. The department generating more profit seems to believe they are subsidising the other department. This has led to interdepartmental conflict, hence the poor performance in interfunctional co-ordination.

The poor performance in interfunctional co-ordination might also be attributed to excessive specialisation by staff within the organisation

*'Being a unit involved in consultancy, we have to show our customers that we have specialist staff with in-depth knowledge in certain areas and not 'jack of all trade' staff'* (Senior staff company F).

The organisation needs improvement in all the components of marketing orientation. It must stop looking at similar organisations that are departments of bigger institutions for ideas, and start looking at the wider market place.

### **7.5.1 External Validity**

In order to check the external validity of the model, a different set of questionnaires were sent to organisations that were not in the original sample frame. 160 questionnaires were sent out, and 24 useable questionnaires were obtained. This represents 15% response rate, which is similar to that obtained in the original sample. Using the 24 questionnaires, the modelling process was repeated. The aim of this process was to calculate the marketing orientation quantum relativities of the 24 organisations that were not in the original sample frame used to construct the model. A comparison was made with the marketing orientation quantum relativities of the 107 organisations used in constructing the model. The marketing orientation quantum relativities of the 24 organisations in the validation sample is as shown below (table 7.24):

**Table 7.24: Marketing Orientation Quantum Relativities of Organisations within the Validation Sample**

Firm	Comp. Quantum (Cust. Orient)	Comp. Quantum (intf Co-ord)	Comp. Quantum (Bus Maint)	Comp. Quantum (Value-add)	Quantum Relativity Coeff.	Market O. Quantum Relativity
1	8.0184	2.2876	7.2576	11.8981	29.4617	0.8968
2	5.0115	1.6856	6.4512	7.1942	20.3425	0.6192
3	5.6797	1.5652	4.5696	8.301	20.1155	0.6123
4	6.682	1.806	6.1824	9.1311	23.8015	0.7245
5	8.0184	2.1672	9.1392	10.5146	29.8394	0.9083
6	5.0115	1.0836	6.72	9.1311	21.9462	0.6681
7	5.6797	1.6856	7.2576	10.5146	25.1375	0.7652
8	7.3502	1.806	6.9888	8.0243	24.1693	0.7357
9	5.0115	1.3244	4.3008	6.9175	17.5542	0.5344
10	4.3433	0.9632	4.3008	3.8738	13.4811	0.4104
11	5.0115	1.806	8.3328	9.1311	24.2814	0.7391
12	5.3456	1.6856	5.6448	9.9612	22.6372	0.6891
13	4.0092	1.9264	6.4512	5.2573	17.6441	0.5371
14	8.3525	1.5652	8.064	9.9612	27.9429	0.8506
15	7.6843	2.408	6.72	11.8981	28.7104	0.8740
16	7.0161	1.6856	6.72	6.0874	21.5091	0.6548
17	5.0115	1.204	5.1072	6.9175	18.2402	0.5552
18	7.6843	1.6856	7.2576	9.6845	26.312	0.8010
19	7.0161	1.9264	7.7952	9.4078	26.1455	0.7959
20	7.0161	1.9264	8.3328	8.0243	25.2996	0.7701
21	6.682	2.408	6.4512	10.7913	26.3325	0.8016
22	7.0161	0.9632	5.1072	4.7039	17.7904	0.5416
23	7.3502	1.6856	7.7952	9.4078	26.2388	0.7987
24	4.3433	0.9632	7.5264	8.0243	20.8572	0.6349

The mean marketing orientation quantum relativity of the above sample was compared with that of the sample used to construct the model. Null and alternate hypotheses were formulated as shown below:

**Null Hypothesis H0:** The mean marketing orientation quantum relativity of the sample used to construct the model is not significantly different from that of the validation sample.

**Alternate Hypothesis H1:** The mean marketing orientation quantum relativity of the sample used to construct the model is significantly different from that of the validation sample.

In order to investigate the above hypothesis, a z-test was used and the results were as shown below (table 7.25):

**Table 7.25: Z-test Comparing the Means of the Marketing Orientation Quantum Relativities of the Model Development Sample and the Validation Sample**

z-Test: Two Sample for Means		
	Original Sample	Validation Sample
Mean	0.7458	0.7049
Known Variance	0.0116	0.1306
Observations	107.0000	24.0000
Hypothesized Mean Difference	0.0000	
z	0.5483	
P(Z<=z) one-tail	0.2918	
z Critical one-tail	1.6449	
P(Z<=z) two-tail	0.1459	
z Critical two-tail	1.9600	

From the above table, the absolute value of the z-statistic is lower than the critical z for both one tail and two tail test. The null hypothesis could not be rejected, hence there is no statistically significant difference between the mean of the two samples. It follows that the model can be assumed to be valid on the grounds that it represents the facilities management industry adequately.

### 7.5.2 Sensitivity Analysis

The model was analysed to test its sensitivity to a change in any of the total scores of the components from which it is constructed. Since the component polarity is the base value used by the organisations to multiply their component scores, it was decided that the sensitivity of the component polarity should be investigated. The total score for each of the components was varied by -5% and later by +5% successively, and the effect of each change on the component polarity of each of the components investigated. The results of the sensitivity analysis is as shown below (table 7.26):

**Table 7.26: Sensitivity Analysis when the Total Scores are Varied**

	Value-added Varied	Diff	Bus. Maint Varied	Diff	Intf. Varied	Diff	Cust. Orient Varied	Diff	No change	Cust. Orient Varied	Diff	Intf. Varied	Diff	Bus. Maint Varied	Diff	Value-added Varied	Diff
Change	-5%		-5%		-5%		-5%		0%	+5%		+5%		+5%		+5%	
Cust. Orient. Comp. Polarity	0.34	0.01	0.34	0.01	0.34	0.01	0.32	-0.03	0.33	0.34	0.03	0.33	-0.01	0.33	-0.01	0.33	-0.01
Intf. Orient. Comp. Polarity	0.11	0.01	0.11	0.01	0.11	-0.04	0.11	0.02	0.11	0.11	-0.02	0.12	0.04	0.11	-0.01	0.11	-0.01
Bus. Maint. Comp. Polarity	0.27	0.01	0.26	-0.04	0.27	0.01	0.27	0.02	0.27	0.26	-0.02	0.27	-0.01	0.28	0.04	0.26	-0.01
Value-A Comp. Polarity	0.28	-0.04	0.29	0.01	0.29	0.01	0.29	0.02	0.29	0.28	-0.02	0.29	-0.01	0.30	0.04	0.30	0.04
Total Change		0.01		0.00		-0.03		0.02			-0.02		0.03		0.04		-0.01

The above shows that a change in the total score of the various components of market orientation successively does not result to any disproportionate change in the various component polarities, hence showing that the model is not hypersensitive to a change in the overall scores in any of the components. This suggest that even if the data was collected from another sample in the facilities management industry with the overall component scores slightly different, the net change on the model will not be very significant, hence helping to show that the model is stable.

### 7.5.3 Criterion Validity

A model that produces a grading function based on marketing orientation can only be valid if its correlation with overall performance satisfies the following equation:

$$r \geq 0.8$$

where  $r$  is the correlation of the grading function with overall performance,

$\rho$  is the correlation of marketing orientation with overall performance.

The rationale behind the above equation is that the model should have some form of criterion validity. Marketing orientation is already positively related to overall performance. It therefore follows that for the model to be valid, it should have a correlation with overall performance that is greater than or equal to the ordinary correlation between marketing orientation and overall performance. If the correlation in the grading function produced by the model is less than that already obtained between marketing orientation and overall performance, then the purpose of constructing the model is defeated. In order to investigate the criterion validity of the model constructed, a correlation matrix was produced showing the correlation of the marketing orientation quantum relativities of the organisations with overall performance as shown below (table 7.27)

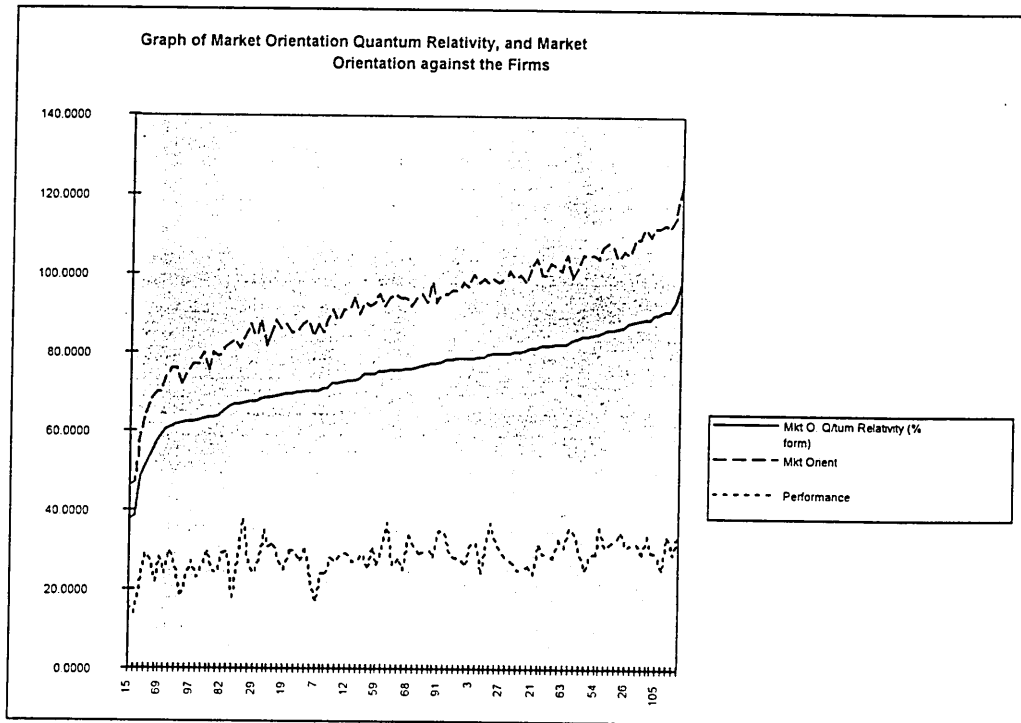
**Table 7.27: Correlation Matrix of Market Orientation Quantum Relativity, Market Orientation, and Overall Performance**

	Market Orientation Quantum Relativity	Market Orientation	Overall Performance
Market Orientation Quantum Relativity	1		
Market Orientation	0.9926	1	
Overall Performance	0.5507	0.5385	1

The above shows a correlation of 0.5507 between market orientation quantum relativity and overall performance. This indicates that there is criterion validity in the model. The correlation between marketing orientation quantum relativity and overall performance is greater than that between marketing orientation and overall performance, hence satisfying the above equation. The correlation between marketing orientation quantum relativity and marketing

orientation itself is 0.9926, which is extremely high. This helps to establish the validity of the model since it shows that the marketing orientation quantum relativity function can adequately represent the organisations in terms of marketing orientation. A graph of marketing orientation quantum relativity, marketing orientation, and overall performance is as shown below (figure 7.5):

**Figure 7.5: Graph of Market Orientation, Market Orientation Quantum Relativity, and Overall Performance of the Organisations**



## 7.6 Summary

The main focus of this chapter was to construct and validate a model that can be used by managers in the industry. This was done by using responses from all 107 respondents in the sample. Responses from organisations that were not in the original sample were used in the model validation process. Based on the validity tests undertaken above, it was concluded that the model was valid.

Managers in the facilities management industry can use the model to benchmark the performance of their organisations in terms of marketing

orientation. At the same time, they can see the relative performance of their organisation in the various components that make up marketing orientation.

In this chapter, it has been shown that through rigorous mathematical calculations and analysis, the best performing organisations in terms of their marketing orientation positions can be identified. This can be done by positioning organisations both within and without the sample on a continuum, indicating their marketing orientation stances. Mediocre performers can undertake a self-diagnostic test using the model developed, with a view to improving their marketing orientation performance.

While the development of a continuum as that developed might not in itself be revolutionary in marketing terms, the model development exercise undertaken might have broadened the present sphere of knowledge on two counts.

Contextually, it fills a gap in the facilities management industry by providing a self-diagnostic test where none exists at present. Conceptually, the approach to model development and validation in this chapter has not been hitherto used in marketing. Equations 4 to 9 are newly developed in this study. This fills a gap in the marketing literature upon which future studies can build, by applying the same approach to different contexts.



## CHAPTER EIGHT: CONCLUSION

### 8.1 Introduction

While the operationalisation of the marketing concept has been studied in manufacturing and some established service and retail industries, a comprehensive literature search could not locate any such attempt within the a young industry such as the UK's facilities management industry. This could mean a total lack of insight into the adjustment processes of organisations in Facilities Management towards a marketing orientation. The need to clearly understand this lies in the dynamically evolving environment in which the firms operate. There is therefore the need to investigate the stances of organisations within the industry on issues such as marketing orientation that might have a bearing on the sustainable competitive advantage of the firms in the short, medium and long term.

The study focused on the development of a scale to capture the operationalisation of the marketing concept within the facilities management industry. The boundary conditions used in the scale development process involves a relative young industry with limited but growing competition, operating in a very dynamic market, with take-overs, spin-offs from other industries and total new firms emerging constantly. The scale development process used techniques such as Spearman rank correlation, factor analysis and multiple correlation.

Using the scale developed, new antecedents to marketing orientation that could be usefully applied were proposed and empirical investigation carried out to investigate them. This involved the use of multiple regression model building and validation techniques. A benchmarking model was also developed for possible self-diagnosis by organisations within the industry.

As a methodological triangulation approach, interviews were conducted to confirm findings from the positivist approach. The interviews were conducted after completion of the quantitative part of the scale building process in order to investigate salient points that emerged in the analysis. Interviews were also used in the model validation process.

## **8.2 Research Methodology**

A triangulation of methodologies (positivist and interpretative approach) was used in the study. This was to obtain a complementarity between the two approaches and compensate for the shortfalls of either approach. The positivist approach was heavily based on a hypothetico-deductive foundation, and for epistemological reasons, an a priori hypothesising approach was adopted in most of the analysis. Since the research methodology is hinged on a triangulation of different approaches, a few of the analyses were undertaken without an a priori hypothesis. In these few situations, theoretical analysis and justification was given for both sides of the argument, and a question asked before proceeding to investigate and answer the question.

## **8.3 Research Findings**

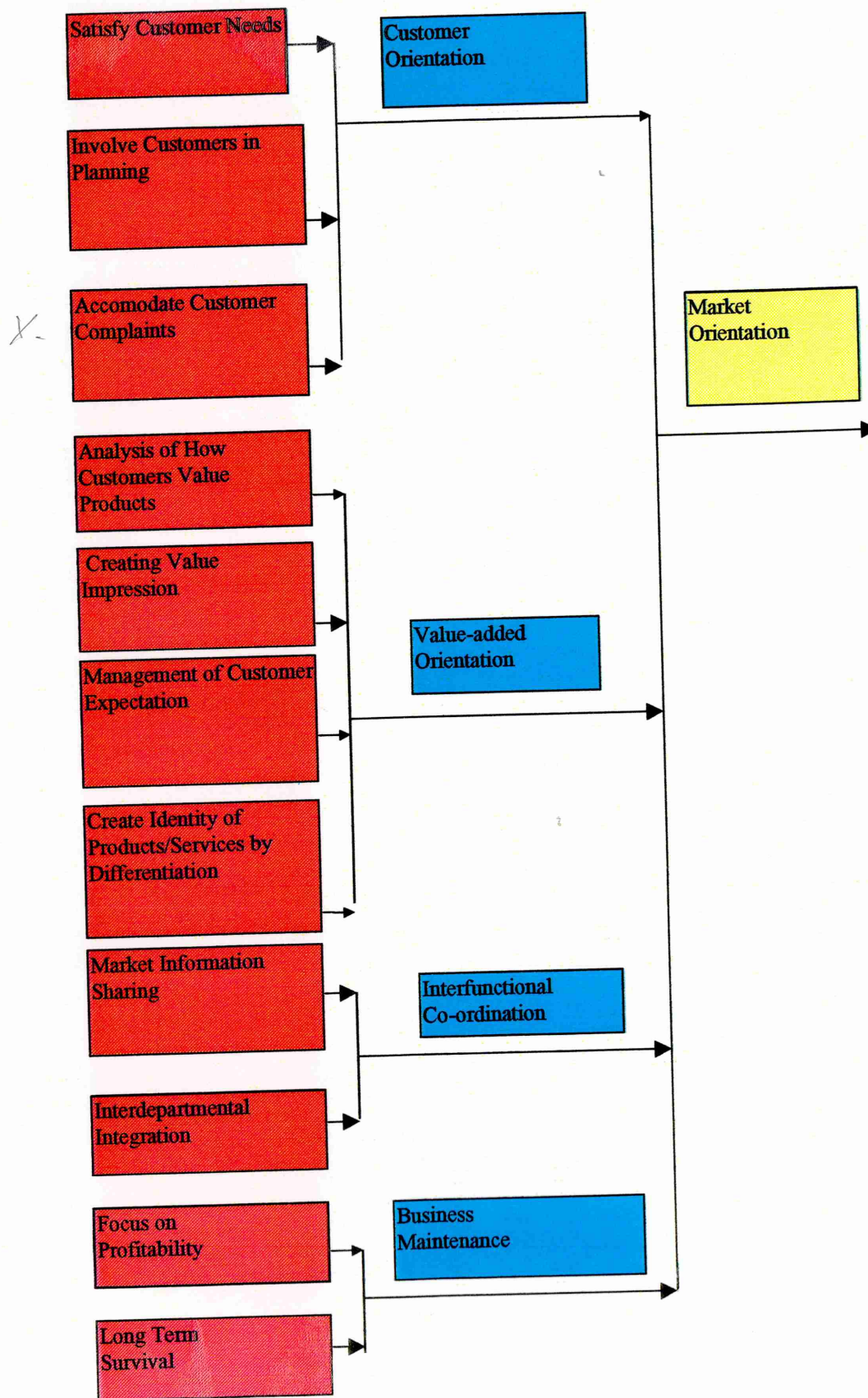
The findings of this research can be broadly divided into two. The first involves a confirmation within the facilities management industry of what had been found in previous studies relating to other, well established, industries. A typical example in this category is the reconfirmation of the positive relationship between marketing orientation and performance. The second group involves an investigation of new and/or controversial issues. A typical example in this later category is the identification of new antecedents to marketing orientation. The major findings of this research are as summarised below.

### 8.3.1 Marketing Orientation Scale Development

While marketing orientation scale development exercises have been undertaken before in the marketing literature, there is still a lack of clarity concerning marketing orientation in terms of its specification, codification and measurement because of its multifarious dimensions (Lado, Mayden-Olivares and Rivera 1998). This brings to focus the need to develop a new scale of marketing orientation that can correct the weaknesses in existing scales as applicable to various contexts. This also makes possible the identification of aspects of the marketing orientation stances of organisations that previous scales did not capture in the form of new components.

The scale development exercise showed that marketing orientation in the facilities management industry consists of three behavioural components namely; customer orientation, value-added orientation, and interfunctional co-ordination, and one decision criterion namely, business maintenance. Value-added orientation and business maintenance are two new components that had not been previously identified in the marketing literature. This therefore helps to increase the existing knowledge in the subject area. This new scale/model of market orientation can be represented schematically as shown below (figure 8.1):

**Figure 8.1: A Model of Marketing Orientation in the Facilities Management Industry**



### 8.3.2 Marketing Orientation and Competitor Orientation

Previous studies of marketing orientation in well developed industries such as that by Narver and Slater (1990), Kohli and Jaworski (1990), Kohli et al (1993), Greenley (1995), all found competitor orientation to be a component of marketing orientation. In this study, it was hypothesised that competitor orientation is not significant at present in the marketing orientation stances of organisations within the facilities management industry. This hypothesis was based on the following:

- ◆ relative youth of the industry;
- ◆ present industrial size;
- ◆ number of participants in the industry;
- ◆ the nature of the services in the industry (intangible);
- ◆ present rate of growth in the industry; and
- ◆ competitor orientation implementation difficulties.

Empirical evidence in this study later proved the above hypothesis. In the past, some academics and scholars (Keith 1960, Hise 1965, McNamara 1972, Lusch and Laezniak 1987) have conceptualised marketing orientation without competitor orientation although this was never empirically tested. Even in a very recent study, Siu and Wilson (1998) conceptualised marketing orientation in the education sector without competitor orientation although this was not also empirically tested. These studies help to provide external validation to the present findings. Despite all these conceptualisations, the literature search indicate that this is the only study that has hypothesised about the insignificance of competitor orientation vis-à-vis marketing orientation in any industry, and gone ahead to prove it empirically. This thus broadens the scope of present knowledge by reconciling theory and empirical evidence in this domain.

### **8.3.3 Entrepreneurial Orientation**

The facilities management industry in the UK is undergoing rapid changes. In such a scenario, marketing orientation and entrepreneurial orientation can be used to create and maintain a sustainable competitive advantage. Due to the closeness and complementary nature of the two constructs, their relationship in the facilities management industry was investigated. The relationship between marketing orientation and entrepreneurial orientation has been investigated before in other industries, with often conflicting results. Zeithaml and Zeithaml (1984) and Morris and Paul (1984) found that the marketing orientation and entrepreneurial orientation constructs describe the same business philosophy. Miles and Arnold (1991) did not find any confirmation of the above results. The results from this study shows that in the facilities management industry, entrepreneurial orientation and marketing orientation are two distinct constructs, although positively related.

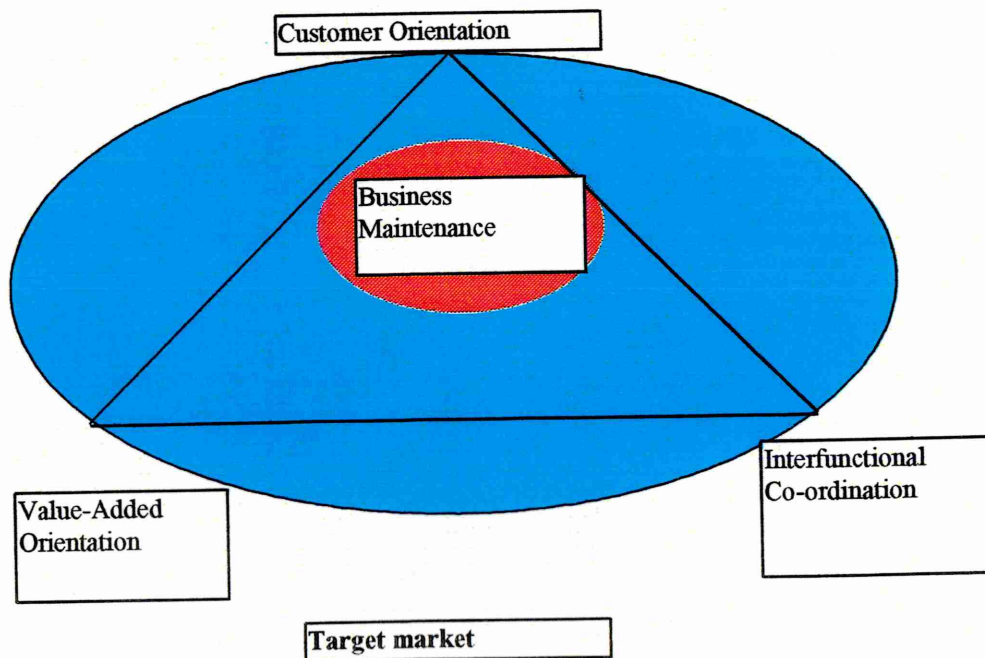
### **8.3.4 Relative Importance of the Components of Marketing Orientation**

The approach adopted in the marketing literature in calculating the value of marketing orientation of an organisation is to add up the scores in the various components i.e. giving all the components an equal weighting (Jaworski and Kohli 1993, Kohli, et al 1993, Narver and Slater 1990, Greenley 1995, Deng and Dart 1994). The rationale for this practice as elucidated in the marketing literature is that theoretically all the components are equally important. This theoretical postulation had not been empirically tested. In order to close this apparent gap in the literature, the respondents were asked to rank the possible components of marketing orientation in descending order of importance. Using Spearman rank correlation techniques, the coefficient of concordance of the rankings was calculated. The calculations produced a very low coefficient of concordance, hence indicating a lack of agreement in the ordering of the possible components in terms of their importance in the operationalisation of

marketing concept. This result means that in calculating the level of marketing orientation, different weightings cannot be given to the various components. The sphere of current knowledge might have been expanded here by the approach i.e. using Spearman rank correlation to resolve the issue, and by the results. As stated above, the results give empirical backing to an issue that has been conceptualised but not before empirically tested. This therefore fills an important gap in the present sphere of knowledge.

The empirical evidence in relation to the weighting of components provided in this study, combined with the scale development exercise undertaken, led to a new conceptualisation of the operationalisation of the marketing concept. This is particularly applicable to the facilities management industry. This can be summarised as a new marketing orientation model as shown below (figure8.2):

**Figure 8.2: Marketing Orientation Model**



### **8.3.5 Organisational Size and Level of Marketing Orientation**

While this study does not advocate the change of organisational size as an instrument of becoming more marketing oriented, it is worthwhile for a manager to know the variation in marketing orientation as a function of size in the industry. This is important because he/she can know when it might be more difficult to be marketing oriented as the firm grows. This also has a managerial implication because with the growth of small businesses, there is always the temptation for marketing to decrease from “critically important” to “modestly irrelevant” (Sui and Kirby 1998). The relationship between marketing orientation and organisational size has been investigated before in the marketing literature with conflicting results (Narver and Slater 1990, Brannen 1983, Dunn et al 1986, Hogarth-Scott 1996, Chaston 1997, Day and Nedunadi 1994). Most of these studies dealt with the small and large firms. In this study, the medium size firms were put in a different category from the small ones. An analysis of the level of marketing orientation showed that the small and large organisations are significantly more marketing oriented than the medium size organisations. While the mean of the level of marketing orientation of the large organisations is higher than that of the small organisations, this difference is not significant. This is in agreement with an earlier study by Dunn et al (1986), which concluded that the marketing concept is practised as much in the smaller firm as in large organisations. The findings in this study are significant because, none of the previous studies isolated and investigated the position of the medium size firms.

### **8.3.6 Marketing Orientation and the Existence of a Formal Customer Service Plan**

The relationship between the level of marketing orientation and the existence of a formal customer service plan in an organisation or firm was investigated. The reason for this investigation was that literature searches could not identify



any study that has hypothesised on the relationship between marketing orientation, and the existence of a formal customer service plan. The results show that there is a significantly higher level of marketing orientation within organisations that have a formal customer service plan than in those without one. Despite this positive relationship, the existence of customer service plan might be only an indicative condition and not a proof that a firm is marketing oriented. The existence of a formal customer service plan might be an indication that top management recognises and emphasises the need for marketing orientation. Therefore, the above results are in agreement with previous studies by Jaworski and Kohli (1993), who found that top management emphasis is positively related to the level of marketing orientation. Since the relationship between marketing orientation and the existence of a formal customer service plan has not been investigated before in the marketing literature, the results obtained in this study fills a gap in the marketing literature, and broadens the sphere of present knowledge.

#### **8.3.7 Marketing Orientation and the Existence of a Customer Service Written Guidelines**

The analysis of the relationship between the level of marketing orientation, and the existence of a customer service written guideline was undertaken for the same reasons as in 10.3.5 above. Results show that there is no significant difference in the level of marketing orientation of organisations with a written customer service guideline, when compared to those without. The existence of a written customer service guideline might indicate high formalisation within the organisation or firm. These results are in consonance with previous studies that found formalisation within organisations not to be positively related to marketing orientation (Jaworski and Kohli 1993). The results reinforce the fact that a “script based” approach involving high levels of standardisation, “productive line” and “industrialised” approaches to service delivery does not necessarily engender a marketing orientation. Again, an existing gap in the

marketing literature has been filled since the issue of customer service written guidelines had not been investigated before.

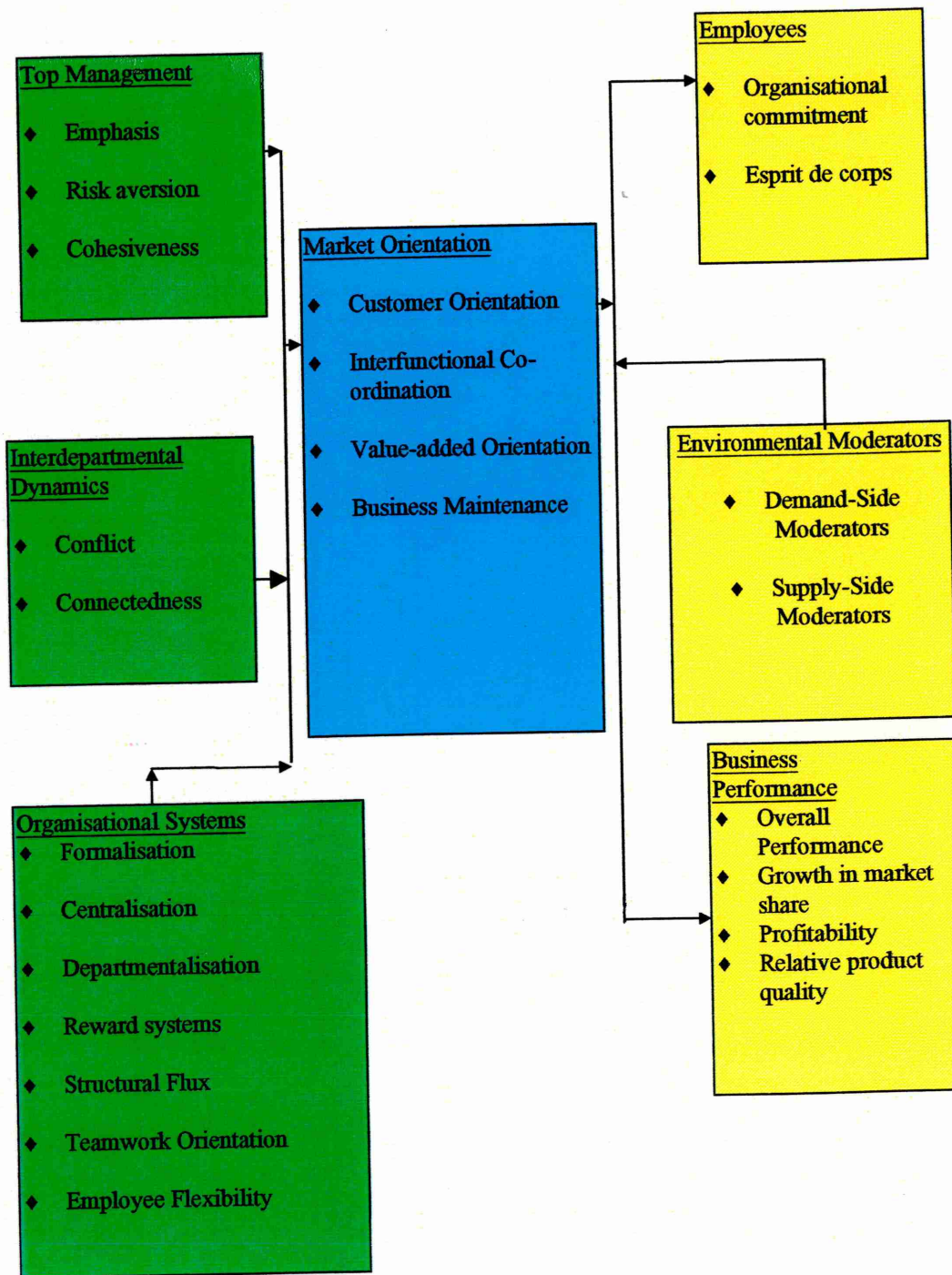
### **8.3.8 Antecedents to Marketing Orientation**

Antecedents are organisational factors that can enhance or impede the implementation of the marketing concept. Since internal antecedents to marketing orientation are generally within the realm of control of the facilities manager, it was considered that the implementation process of marketing orientation would be affected in a positive way if more useful internal antecedents can be identified. This study identified and validated empirically three new antecedents namely:

- ◆ structural flux;
- ◆ teamwork orientation; and
- ◆ employee flexibility.

Organisations with high levels of structural flux, teamwork orientation, or employee flexibility have higher levels of marketing orientation. These antecedents have not been previously addressed in the marketing literature. Their relationship with marketing orientation has not been explored nor has any empirical data collected to prove or disprove any hypotheses concerning their moderating effect on a firm's marketing orientation. It therefore follows that these new antecedents identified fill an important gap in the marketing literature and broadens the sphere of present knowledge. This is particularly significant because antecedents have a direct effect by impeding or enhancing the implementation of the marketing concept in organisations. By advancing the pioneering work of Jaworski and Kohli (1993), and using the new marketing orientation scale developed, a new schematic representation of the internal antecedents to marketing orientation, is as shown below (figure 8.3):

**Figure 8.3: Antecedents and Consequences of marketing orientation**



The above schematic model is different from that in the existing literature in two aspects. The first aspect is that marketing orientation has two new dimensions namely value-added orientation and business maintenance which are newly identified in this study. The second aspect is that within organisational systems, three new antecedents are presented, namely; structural flux, teamwork orientation, and employee flexibility.

### **8.3.9 Consequences of Marketing Orientation in the Facilities Management Industry**

Marketing orientation is positively related to overall performance, market share, relative product quality and profitability. This positive relationship with various measures of performance is consistent with recent work by Doyle and Wong (1998). Although the relationship is relatively strong between marketing orientation and overall performance, that between marketing orientation and market share, relative product quality, and profitability is not very strong in the facilities management industry. This seems to suggest that 'overall performance', which is an addition of the performance on various individual measures of performance without weighting, is a better measure of performance in the facilities management industry.

### **8.3.10 Forms of Marketing Orientation and Factors that Differentiate them in the Facilities Management Industry.**

There are different forms of marketing orientation in the facilities management industry. These forms can be characterised as follows:

- ◆ Business Maintenance Orientation;
- ◆ Average Marketing Orientation;
- ◆ Short Term Orientation;
- ◆ Poor Marketing Orientation; and
- ◆ Mature and Balanced Marketing Orientation

The different forms are differentiated by four factors namely:

- ◆ a survival factor that accounts for 39.86% of the variance in the various forms;
- ◆ a product/service differentiation factor that accounts for 25.92% of variance;
- ◆ an impression creation factor that centres on the form and not the content of products and services. This accounts for 20.6% of variance; and
- ◆ a sensitivity factor that accounts for 13.62% of variance.

While the survival factor had previously been identified in the marketing literature and termed the 'planning factor' (Greenley 1995), the product/service differentiation factor, the impression creation factor, and the sensitivity factor are all newly identified in this study. This thus helps to broaden the scope of present knowledge in this domain.

#### **8.3.11 Model Development and Validation**

This study was based on the assumption that the marketing orientation implementation process will be made easier, if a benchmarking model is used by managers in this respect. An arachnoidal non generic benchmarking model was constructed, which can indicate to facilities managers the relative position of their organisation vis-à-vis marketing orientation. It can also indicate at the same time the relative position of their organisations with respect to the various components of marketing orientation.

In order to make sure the model is of practical relevance, reliability and relative importance issues were built into it during the process of development. The outcome was validated by using respondents who were not included in the original sample. It is hoped the model will be of assistance to practising facilities managers.

The model shows that it is possible to identify through rigorous statistical analysis, the best performing organisations in terms of their marketing orientation stances. It can also help in the analysis and positioning of the organisations within the facilities management industry on a continuum. This indicates the level of operationalisation of the marketing concept in the organisations. It is possible for the mediocre performers to undertake a self-diagnostic test based on the model, with a view to improving their marketing orientation stances.

While the concept of developing a continuum might not be revolutionary by itself in literature terms, the model development and validation process might have significantly broadened existing knowledge in two aspects. First, in a contextual aspect, it provides a useful tool that can be used by managers and fills a gap in the facilities management industry, since so such model exist at present. Secondly, in a conceptual aspect, the process and method of developing and validating the model, is mostly developed by the author. This brings to focus a new method not hitherto evident in the domain of marketing. This can be adapted and applied in other sections of the social sciences in future research.

#### **8.4 Recommendation**

Facilities management organisations should spare no effort to becoming more marketing oriented so that such an orientation can become a part of their industrial culture, since the industry is in a developmental stage. The model developed in this study should be used as a self-diagnostic tool in the implementation process.

Since the relationship between marketing orientation and performance transcends industrial boundaries, the way forward for organisations in the facilities management industry is to make the marketing concept a corner stone of their business strategy. This might assist the organisations to adapt

and cope in the ever-changing market place. For the organisations to achieve the above goals, various strategies must be put in place. These might include increased education of their staff on market driven issues, manipulation of internal antecedents, and benchmarking best practices in terms of marketing orientation within and without the industry. A constant reassessment of the state of marketing orientation in the firms is also vital since the industry is in a state of constant flux.

The organisations should also realise that being marketing oriented is a continuous process where sustainable competitive advantage can be achieved mainly by being able to adapt to the ever-changing signs from the market place. With stagnation, any competitive advantage that has accrued to a firm can be swamped by industrial noises or by other organisations improving and surpassing the firm.

### **8.5 Limitation of Study**

Studies such as this based on subjective self-evaluation can be subject to various cognitive biases such as position bias. This problem was minimised by the fact that the questionnaires were completed by senior staff within the firms.

The cross sectional nature of data collected on many variables at the same time prevents the analysis of cause and effect, and any analysis of rates of change of the various components of market orientation over time. This has the effect of making the study more of a snap shot of the industry at a point in time.

Another limitation of the study is that, although the relationship between marketing orientation and performance was reconfirmed in this study, no adjustment was made for possible moderators to the relationship. This problem was limited by the fact that all the organisations and firms in the sample frame are in the same industry, hence generally subjected to the same

moderators. It is hoped that this limitation is not very serious, because in a recent study by Pelham (1997), multiple regression models determined that inclusion of control variables did not influence the marketing orientation/performance relationship significantly.

The benchmarking model developed in this study has the limitation that the model does not identify the actual best practices by name. This means that any process benchmarking after using the model will have to start from identification of best practices. This might be difficult where best practices are not easily identifiable.

The benchmarking model also has a limitation in that it was not possible to identify the actual organisations in all the various categorisations, to find out in depth, what makes some organisations perform well and others very poorly. This problem was mitigated by using known organisations as examples in the model development chapter. These were subjected to in-depth interviews to investigate in an interpretative manner, why they are in a particular band.

## **8.6 Recommendations for Future Research**

This study identified new antecedents to marketing orientation and also different types of marketing orientation in the facilities management industry. Using all the internal antecedents to marketing orientation identified to date, further research can investigate if there is an association between these internal antecedents and different forms of marketing orientation. Greenley (1995) investigated the association between environmental factors and different forms of marketing orientation. To date, there is no study that has investigated the relationship between internal antecedents and different forms of marketing orientation. Further research can thus address this gap.

Further research can also try to expand the number of internal antecedents to marketing orientation. This is important because if internal antecedents are



organisation factors that can enhance or impede the implementation of marketing orientation, then more attention should be put in identifying them.

This study is heavily dependent on a quantitative approach. Further research can undertake a longitudinal study, involving case studies, where the implementation process of marketing orientation in the facilities management industry can be studied over a period of time i.e. from inception to maturity.

Future studies can also reconfirm the results obtained in this study. A typical example is to confirm that the components of marketing orientation should be given equal weighting when calculating marketing orientation by using a criterion approach. This approach will involve separating organisations based on their scores on the various components of marketing orientation. The investigation will focus on whether a high score in one of the components, produces a significant higher overall performance when compared with the other organisations. This approach will build on the study by Day and Nedungadi (1994). While working with industrial firms, they found that market driven firms that balance the level of competitor and customer orientation achieve better performance than those that emphasis only one of them.

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# QUESTIONNAIRE ON MARKET ORIENTATION

## SECTION A: General Information

Name of Organisation:.....

No of workers in your organisation (only for the branch you work in)

1-100 ☐ 100-500 ☐ 500-1000 ☐ Greater than 1000 ☐

Geographical spread of business activities

Regional ☐ International ☐ National ☐

Nature of business activity.....

How often do you use external marketing consultants

never ☐ often ☐ few times ☐ very often ☐

Please rank the following measures of success in order of importance with 1 for most important, and 8 for least important

cost effectiveness ☐

increased turnover ☐

return on investment ☐

improving corporate image ☐

client loyalty ☐

customer satisfaction ☐

profit ☐

others ☐ Please specify .....

Do you have any formal customer service plan ? Yes ☐ No ☐

Do you have any customer service written guidelines? Yes ☐ No ☐

Is your firm certified for quality by any institution e.g.ISO 9000 Yes ☐ No ☐

Grade the importance of benchmarking to your business

Not slightly important very important Extremely important  
☐ ☐ ☐ ☐ ☐

1 Please rank the following according to their importance in your effort to satisfy the wants and needs of your customers, with 1 for most important, and 6 for least important.

- Seeking customer needs, involving customer in product design, after sale

services (Customer orientation)

- Collation of information, planning and acting against the

competition (competitor orientation)

- Sharing of strategic information amongst depts, sharing blames and successes amongst depts and getting input from all depts

before taking major decisions (Interfunctional co-ordination)

- Planning for the long term survival of the organisation, (Long term focus)

- Analyses of the profitability of various segments of the market, various

products and dealing with major clients, (Profit orientation)

- Differentiating our products, creating higher customer value impression on our

products, active customer expectation management (Value-added orientation).

2 Rank the main hindrances to the use of benchmarking (1 for the greatest hindrance and 4 for the least)

Ignorance

lack of

lack of

Please specify

resource

partners

Others

3 Please rank the type of businesses where you think benchmarking can be most successful (1 for most successful and 4 for least successful)

small business

medium size business

large business

others

Please specify.....

### SECTION B: Customer Orientation

Please indicate which of the statements below correctly describes your organisation by inserting the appropriate number in the box, where 1= Least describes, 2= Does not describe much, 3= Neutral, 4= Describes and 5= Best describes your organisation

Customer needs always supersede our internal needs in this organisation

We always involve the customer in our product and service planning in this organisation

Customers comments are highly sought after in this organisation

**Please indicate which of the statements below correctly describes your organisation by inserting the appropriate number in the box, where 1= Least describes .2= Does not describe much. 3= Neutral. 4= Describes and 5= Best describes your organisation**

After sales service is integral to our activities in this organisation

☐

Customer satisfaction is our most important performance measure in this organisation

☐

**Competitor Orientation**

Generally, competitor information is available in this organisation

☐

In planning against competition, we plan against actual and potential competitors

☐

In departmental meetings, competitor's actions and effects are often discussed

☐

We act promptly in any action to counter any strategic move by competitors

☐

**Interfunctional Co-ordination**

Departments are willing to share blame and praise for failures and successes in services to customers.

☐

Any information of market importance in one department is shared with other departments

☐

The various departments generally act with one vision in mind

☐

In the fight against competitors, all departments give an input

☐

**Long-term Horizon**

Before any action, the long term implication is always analysed

☐

The probability of retaining a client over a long term, is as important as profit to us

☐

Long term strategic issues are given great importance in our planning

☐

Long term plans for the business are routinely discussed in our meetings

☐

**Profit Emphasis**

We analyse the profitability of every client or segment of the market

☐

Our systems permit us to easily assess the impact on profits of all major actions in the market

☐

We are always trying to repackage our services to make them more profitably

☐

Our activities are divided into various cost centres for ease of analysis

☐

A cost centre that is not profitable, can easily be shut down

☐

**Please indicate which of the statements below correctly describes your organisation by inserting the appropriate number in the box, where 1= Least describes .2= Does not describe much. 3= Neutral. 4= Describes and 5= Best describes your organisation**

**Value-Added Orientation**

- We always inform clients about the differences between our services and other services ☐
- We believe our long term survival depends on the recognition of the uniqueness of our services ☐
- We try to understand how our customers rate the value of all our services ☐
- Great emphasis is put on making customers give the highest rating to our products. ☐
- We brand/ package and promote our services to increase customer confidence in them. ☐
- We streamline the choice of our services by offering an entire line of services for different customers e.g. central gov't, local authorities, NHS, etc. ☐
- Product mix/ recompositions is used to create value impressions on clients ☐
- We manage customer expectation of our services for it not to go higher than we can provide ☐
- We promote actively the high end of our services which in turn enhance the quality impressions of the less glamorous aspects of our services ☐

**SECTION C**

**Entrepreneurial Orientation**

- New services and products are rapidly being introduced in the market ☐
- Risks that can lead to growth opportunities are easily taken ☐
- We constantly change and adapt our services and delivery of services ☐
- We adopt a very aggressive posture in tackling any threat from the competitors ☐
- We always try to look for new ways of solving problems ☐
- The failure of a new product does not lead to internal recrimination ☐
- Risks and uncertainty are not the most important consideration in making our investment decisions ☐
- Employees are recognised and rewarded for creativity in problem solving ☐
- We stress the need for research and innovation ☐

**Please indicate which of the statements below correctly describes your organisation by inserting the appropriate number in the box, where 1= Least describes ,2= Does not describe much, 3= Neutral, 4= Describes and 5= Best describes your organisation**

j We make every effort possible to seek new opportunities ☐

k We are usually willing to make important decisions despite risks and uncertainty ☐

i Increasing our market share is of paramount importance to us ☐

m Most decisions are a consensus arrived at from different conflicting needs ☐

n We are experiencing a steady growth and stability in our business ☐

## **SECTION D: Antecedents**

### **Structural Flux**

a Staff can easily be reorganised if the need arises ☐

We usually reorganise our structure to tackle new problems ☐

Interdepartmental and interfunctional mergers and spin-offs are very common ☐

We can break a department or function into sub-units as workload dictates ☐

We bring in external consultants to assist if the need arises ☐

### **Team Work Orientation**

We believe that teams generally outperform individuals ☐

We usually tackle serious problems by forming interfunctional teams ☐

If a team starts a project, it is often allowed to finish it ☐

If a team is performing well, we always transfer it from one project to another ☐

### **Benchmarking Awareness**

We consider benchmarking as essential to our business ☐

We always try to meet or surpass the best in whatever we do ☐

We consider benchmarking to be continuous, hence we repeat it over and over again ☐

We educate all our staff on the importance of benchmarking to the organisation. ☐



**Please indicate which of the statements below correctly describes your organisation by inserting the appropriate number in the box, where 1= Least describes ,2= Does not describe much, 3= Neutral, 4= Describes and 5= Best describes your organisation**

**Employee Recognition**

- a We have uniform employment conditions for our staff ☐
- b We consider seniority as important as formal training when promoting staff ☐
- c We give junior staff the same opportunity to be heard as senior staff ☐
- d We do not apply extra vigilance on our junior employees e.g. cloaking them in. ☐

**Employee Flexibility**

- a We avoid narrow specialisation by our employees ☐
- b We usually send our employees to other departments in this organisation to understand what they are doing ☐
- c If an employee is absent, it is very easy for another to stand in for him or her ☐
- Most of our employees can work successfully without sight supervision ☐

**SECTION E: Performance**

**Please rate your organisation from 1 to 5 by inserting the appropriate number in the box where 1= much below expectation, 2= below expectation, 3= neutral, 4= above expectation and 5= much above expectation**

- Operating cash flow ☐
- Operating profit when compared with that of our major competitors ☐
- Rate of growth of our market share relative to our major competitors ☐
- Success of new services introduced by us ☐
- Annual growth in revenue compared to our major competitors ☐
- Annual client retention rate ☐
- Annual growth in number of new clients ☐
- Return on investment when compared to our major competitors(ROI) ☐
- Relative product quality when compared to our major competitors ☐

**THANK YOU FOR FINDING THE TIME TO COMPLETE THE QUESTIONNAIRE.**

Do you want an executive summary of the research? YES ☐ NO ☐

If YES, PLEASE WRITE ADDRESS BELOW:

<b>FIRMS</b>	<b>WK2.00</b>	<b>SP3.00</b>	<b>CON5.00</b>	<b>PLAN7.0</b>	<b>GUID8.0</b>	<b>CERT9.00</b>
<b>1</b>	4	1.00	2.00	1.00	1.00	1.00
<b>2</b>	2	2.00	3.00	1.00	1.00	1.00
<b>3</b>	2	2.00	1.00	1.00	1.00	1.00
<b>4</b>	2	2.00	3.00	1.00	1.00	1.00
<b>5</b>	2	3.00	3.00	2.00	2.00	2.00
<b>6</b>	3	1.00	3.00	1.00	1.00	2.00
<b>7</b>	2	1.00	3.00	1.00	2.00	2.00
<b>8</b>	1	3.00	1.00	2.00	1.00	2.00
<b>9</b>	4	2.00	1.00	2.00	1.00	1.00
<b>10</b>	2	3.00	3.00	1.00	1.00	1.00
<b>11</b>	4	2.00	1.00	1.00	1.00	1.00
<b>12</b>	2	1.00	3.00	1.00	1.00	2.00
<b>13</b>	1	1.00	4.00	1.00	1.00	1.00
<b>14</b>	3	3.00	3.00	1.00	1.00	2.00
<b>15</b>	2	3.00	3.00	1.00	1.00	1.00
<b>16</b>	2	3.00	3.00	2.00	1.00	2.00
<b>17</b>	3	3.00	3.00	2.00	2.00	1.00
<b>18</b>	3	1.00	3.00	1.00	1.00	2.00
<b>19</b>	1	1.00	3.00	2.00	1.00	2.00
<b>20</b>	3	1.00	3.00	1.00	1.00	1.00
<b>21</b>	3	2.00	2.00	1.00	1.00	2.00
<b>22</b>	1	3.00	4.00	1.00	1.00	1.00
<b>23</b>	2	1.00	3.00	2.00	2.00	1.00
<b>24</b>	4	2.00	2.00	1.00	1.00	1.00
<b>25</b>	1	2.00	1.00	1.00	1.00	2.00
<b>26</b>	4	3.00	3.00	1.00	1.00	1.00
<b>27</b>	2	3.00	3.00	1.00	1.00	1.00
<b>28</b>	1	2.00	1.00	1.00	1.00	1.00
<b>29</b>	1	2.00	3.00	2.00	2.00	2.00
<b>30</b>	1	2.00	4.00	1.00	1.00	2.00
<b>31</b>	1	2.00	3.00	2.00	2.00	2.00
<b>32</b>	4	2.00	1.00	1.00	1.00	1.00
<b>33</b>	1	2.00	3.00	2.00	2.00	2.00
<b>34</b>	1	3.00	3.00	2.00	2.00	2.00
<b>35</b>	1	2.00	3.00	2.00	2.00	1.00
<b>36</b>	1	1.00	3.00	1.00	1.00	1.00
<b>37</b>	1	3.00	3.00	1.00	1.00	1.00
<b>38</b>	1	3.00	3.00	2.00	2.00	1.00
<b>39</b>	2	3.00	1.00	1.00	1.00	1.00
<b>40</b>	1	3.00	1.00	1.00	1.00	1.00
<b>41</b>	2	1.00	1.00	1.00	1.00	1.00

<b>FIRMS</b>	<b>WK2.00</b>	<b>SP3.00</b>	<b>CON5.00</b>	<b>PLAN7.0</b>	<b>GUID8.0</b>	<b>CERT9.00</b>
42	2	2.00	1.00	2.00	2.00	1.00
43	1	3.00	1.00	1.00	1.00	2.00
44	1	1.00	3.00	1.00	1.00	2.00
45	1	2.00	1.00	1.00	1.00	1.00
46	1	3.00	1.00	1.00	1.00	2.00
47	2	2.00	1.00	2.00	2.00	1.00
48	1	3.00	2.00	1.00	1.00	1.00
49	1	2.00	1.00	2.00	2.00	2.00
50	1	2.00	3.00	1.00	1.00	1.00
51	2	2.00	3.00	1.00	1.00	2.00
52	1	3.00	3.00	1.00	1.00	1.00
53	1	2.00	3.00	1.00	1.00	1.00
54	2	2.00	3.00	1.00	1.00	1.00
55	1	2.00	3.00	1.00	1.00	1.00
56	2	3.00	3.00	2.00	1.00	1.00
57	1	2.00	1.00	1.00	1.00	1.00
58	1	2.00	1.00	2.00	1.00	1.00
59	1	2.00	1.00	1.00	1.00	2.00
60	1	2.00	2.00	1.00	2.00	1.00
61	1	3.00	1.00	1.00	1.00	1.00
62	1	2.00	3.00	2.00	2.00	1.00
63	3	3.00	3.00	1.00	1.00	1.00
64	1	1.00	3.00	1.00	1.00	1.00
65	1	3.00	3.00	1.00	1.00	1.00
66	1	3.00	1.00	1.00	1.00	1.00
67	2	3.00	1.00	1.00	1.00	1.00
68	1	2.00	1.00	1.00	1.00	2.00
69	1	2.00	1.00	2.00	1.00	1.00
70	1	2.00	3.00	1.00	1.00	2.00
71	1	3.00	3.00	2.00	2.00	2.00
72	1	2.00	3.00	1.00	1.00	1.00
73	2	2.00	1.00	1.00	2.00	1.00
74	1	3.00	1.00	1.00	2.00	1.00
75	1	2.00	2.00	1.00	1.00	1.00
76	3	2.00	3.00	1.00	1.00	1.00
77	1	3.00	2.00	1.00	1.00	2.00
78	1	3.00	1.00	1.00	1.00	1.00
79	2	3.00	3.00	1.00	1.00	1.00
80	2	2.00	3.00	2.00	2.00	1.00
81	1	3.00	3.00	2.00	1.00	1.00
82	1	3.00	3.00	2.00	2.00	2.00

<b>FIRMS</b>	<b>WK2.00</b>	<b>SP3.00</b>	<b>CON 5.00</b>	<b>PLAN7.0</b>	<b>GUID8.0</b>	<b>CERT9.00</b>
<b>83</b>	1	3.00	3.00	1.00	1.00	2.00
<b>84</b>	1	2.00	4.00	2.00	2.00	1.00
<b>85</b>	1	3.00	3.00	1.00	1.00	2.00
<b>86</b>	4	2.00	3.00	1.00	1.00	1.00
<b>87</b>	4	1.00	3.00	1.00	1.00	1.00
<b>88</b>	1	3.00	1.00	1.00	1.00	1.00
<b>89</b>	2	3.00	3.00	2.00	2.00	1.00
<b>90</b>	1	3.00	3.00	1.00	1.00	2.00
<b>91</b>	2	3.00	3.00	1.00	1.00	1.00
<b>92</b>	1	2.00	1.00	2.00	2.00	1.00
<b>93</b>	1	2.00	3.00	2.00	1.00	2.00
<b>94</b>	1	3.00	2.00	2.00	1.00	2.00
<b>95</b>	2	2.00	3.00	1.00	1.00	1.00
<b>96</b>	2	2.00	4.00	1.00	1.00	1.00
<b>97</b>	3	3.00	3.00	1.00	1.00	1.00
<b>98</b>	3	2.00	3.00	1.00	1.00	1.00
<b>99</b>	1	3.00	3.00	1.00	1.00	1.00
<b>100</b>	1	2.00	3.00	1.00	1.00	1.00
<b>101</b>	2	3.00	2.00	2.00	2.00	1.00
<b>102</b>	2	2.00	3.00	1.00	1.00	1.00
<b>103</b>	1	1.00	1.00	2.00	2.00	2.00
<b>104</b>	1	3.00	1.00	1.00	2.00	1.00
<b>105</b>	1	3.00	1.00	1.00	1.00	2.00
<b>106</b>	1	3.00	1.00	1.00	1.00	1.00
<b>107</b>	2	2.00	1.00	1.00	1.00	1.00

FIRMS	IMP10.00	COM11A	COMP11B	INTF11C	LONGF11D	PRFIT11E
1	3.00	2.00	5.00	1.00	4.00	3.00
2	4.00	1.00	6.00	5.00	3.00	4.00
3	3.00	6.00	5.00	4.00	1.00	3.00
4	4.00	1.00	4.00	3.00	6.00	5.00
5	4.00	1.00	5.00	6.00	2.00	4.00
6	2.00	1.00	2.00	6.00	4.00	5.00
7	5.00	2.00	5.00	3.00	4.00	6.00
8	2.00	2.00	6.00	5.00	4.00	3.00
9	5.00	1.00	6.00	5.00	4.00	2.00
10	5.00	2.00	6.00	4.00	5.00	1.00
11	5.00	2.00	4.00	3.00	6.00	5.00
12	4.00	1.00	4.00	3.00	5.00	6.00
13	3.00	1.00	6.00	3.00	2.00	4.00
14	2.00	4.00	6.00	3.00	5.00	1.00
15	4.00	1.00	6.00	4.00	4.00	3.00
16	3.00	4.00	6.00	5.00	3.00	2.00
17	3.00	5.00	4.00	6.00	2.00	3.00
18	4.00	3.00	2.00	4.00	5.00	6.00
19	2.00	1.00	3.00	5.00	4.00	2.00
20	4.00	1.00	6.00	5.00	3.00	4.00
21	5.00	1.00	4.00	3.00	6.00	5.00
22	4.00	1.00	4.00	3.00	6.00	5.00
23	5.00	1.00	4.00	2.00	5.00	3.00
24	4.00	2.00	6.00	5.00	1.00	4.00
25	3.00	1.00	6.00	3.00	4.00	2.00
26	4.00	1.00	6.00	5.00	3.00	2.00
27	4.00	1.00	5.00	6.00	3.00	4.00
28	3.00	4.00	6.00	1.00	3.00	5.00
29	2.00	2.00	5.00	6.00	4.00	3.00
30	5.00	1.00	3.00	3.00	2.00	2.00
31	5.00	4.00	2.00	1.00	5.00	6.00
32	4.00	1.00	6.00	4.00	3.00	5.00
33	2.00	1.00	3.00	4.00	3.00	3.00
34	5.00	1.00	6.00	4.00	3.00	4.00
35	2.00	1.00	6.00	3.00	5.00	4.00
36	3.00	2.00	3.00	6.00	4.00	5.00
37	3.00	1.00	6.00	5.00	3.00	4.00
38	1.00	4.00	5.00	6.00	3.00	2.00
39	3.00	1.00	5.00	4.00	3.00	6.00
40	3.00	4.00	5.00	2.00	3.00	1.00

FIRMS	IMP10.00	COM11A	COMP11B	INTF11C	LONGF11D	PRFIT11E
41	3.00	6.00	5.00	4.00	2.00	3.00
42	1.00	1.00	4.00	6.00	3.00	5.00
43	2.00	3.00	2.00	5.00	1.00	4.00
44	4.00	5.00	4.00	3.00	6.00	2.00
45	3.00	1.00	6.00	2.00	3.00	4.00
46	1.00	4.00	6.00	3.00	1.00	5.00
47	3.00	3.00	6.00	4.00	1.00	5.00
48	3.00	3.00	6.00	5.00	2.00	4.00
49	3.00	2.00	3.00	6.00	1.00	5.00
50	4.00	1.00	5.00	6.00	2.00	3.00
51	2.00	3.00	2.00	5.00	1.00	4.00
52	3.00	2.00	4.00	6.00	1.00	5.00
53	3.00	1.00	4.00	2.00	5.00	6.00
54	3.00	1.00	6.00	5.00	2.00	4.00
55	5.00	1.00	3.00	4.00	6.00	5.00
56	3.00	1.00	6.00	5.00	4.00	2.00
57	5.00	3.00	5.00	6.00	1.00	4.00
58	4.00	3.00	2.00	6.00	5.00	4.00
59	2.00	1.00	5.00	6.00	2.00	4.00
60	4.00	1.00	6.00	3.00	5.00	4.00
61	1.00	1.00	3.00	5.00	6.00	4.00
62	1.00	2.00	1.00	4.00	6.00	5.00
63	3.00	2.00	5.00	3.00	1.00	4.00
64	2.00	5.00	6.00	3.00	2.00	1.00
65	4.00	1.00	5.00	4.00	3.00	2.00
66	3.00	1.00	6.00	4.00	3.00	5.00
67	4.00	5.00	6.00	4.00	1.00	3.00
68	4.00	1.00	5.00	4.00	6.00	3.00
69	3.00	1.00	3.00	4.00	6.00	5.00
70	1.00	1.00	6.00	5.00	3.00	4.00
71	3.00	1.00	2.00	6.00	3.00	5.00
72	3.00	1.00	3.00	4.00	6.00	5.00
73	1.00	3.00	5.00	5.00	3.00	6.00
74	2.00	1.00	4.00	6.00	3.00	5.00
75	5.00	4.00	6.00	5.00	1.00	3.00
76	2.00	1.00	3.00	5.00	2.00	4.00
77	5.00	4.00	5.00	6.00	1.00	2.00
78	2.00	1.00	6.00	2.00	5.00	4.00
79	3.00	5.00	6.00	3.00	4.00	2.00
80	3.00	2.00	3.00	4.00	5.00	6.00
81	3.00	5.00	4.00	6.00	3.00	2.00

<b>FIRMS</b>	<b>IMP10.00</b>	<b>COM11A</b>	<b>COMP11B</b>	<b>INTF11C</b>	<b>LONGF11D</b>	<b>PRFIT11E</b>
<b>82</b>	2.00	2.00	4.00	6.00	5.00	3.00
<b>83</b>	4.00	1.00	6.00	5.00	2.00	3.00
<b>84</b>	5.00	1.00	3.00	2.00	6.00	5.00
<b>85</b>	3.00	2.00	6.00	5.00	1.00	3.00
<b>86</b>	2.00	1.00	6.00	4.00	3.00	5.00
<b>87</b>	4.00	1.00	2.00	4.00	6.00	5.00
<b>88</b>	4.00	3.00	4.00	5.00	1.00	6.00
<b>89</b>	4.00	1.00	5.00	6.00	3.00	4.00
<b>90</b>	3.00	1.00	5.00	3.00	6.00	2.00
<b>91</b>	3.00	1.00	6.00	5.00	3.00	2.00
<b>92</b>	2.00	2.00	5.00	3.00	6.00	4.00
<b>93</b>	1.00	1.00	6.00	5.00	4.00	3.00
<b>94</b>	2.00	4.00	6.00	5.00	1.00	2.00
<b>95</b>	3.00	1.00	4.00	6.00	5.00	3.00
<b>96</b>	2.00	1.00	6.00	5.00	4.00	3.00
<b>97</b>	3.00	3.00	5.00	2.00	4.00	6.00
<b>98</b>	4.00	2.00	3.00	6.00	1.00	4.00
<b>99</b>	3.00	4.00	5.00	6.00	3.00	2.00
<b>100</b>	4.00	3.00	5.00	6.00	2.00	4.00
<b>101</b>	5.00	1.00	6.00	4.00	3.00	5.00
<b>102</b>	4.00	6.00	5.00	4.00	2.00	3.00
<b>103</b>	2.00	5.00	2.00	6.00	3.00	4.00
<b>104</b>	3.00	2.00	6.00	3.00	4.00	1.00
<b>105</b>	2.00	1.00	6.00	5.00	2.00	3.00
<b>106</b>	5.00	4.00	6.00	5.00	3.00	2.00
<b>107</b>	4.00	3.00	4.00	5.00	2.00	6.00

FIRMS	VAADD11F	CUST14A	CUST14B	CUST14C	CUST14D
1	6.00	4.00	2.00	5.00	3.00
2	2.00	4.00	4.00	5.00	4.00
3	2.00	5.00	3.00	4.00	3.00
4	2.00	4.00	3.00	5.00	3.00
5	3.00	5.00	4.00	4.00	3.00
6	3.00	3.00	4.00	4.00	2.00
7	1.00	3.00	4.00	5.00	4.00
8	1.00	4.00	3.00	5.00	4.00
9	3.00	3.00	5.00	5.00	3.00
10	3.00	5.00	4.00	5.00	4.00
11	1.00	4.00	5.00	5.00	5.00
12	2.00	4.00	4.00	4.00	3.00
13	5.00	5.00	4.00	4.00	3.00
14	2.00	5.00	4.00	5.00	5.00
15	2.00	1.00	2.00	1.00	2.00
16	1.00	1.00	3.00	2.00	3.00
17	1.00	4.00	3.00	4.00	4.00
18	1.00	4.00	3.00	5.00	3.00
19	6.00	2.00	4.00	4.00	2.00
20	2.00	2.00	4.00	5.00	2.00
21	2.00	3.00	2.00	2.00	5.00
22	2.00	4.00	3.00	5.00	4.00
23	6.00	5.00	5.00	5.00	3.00
24	3.00	5.00	4.00	3.00	3.00
25	5.00	2.00	4.00	4.00	5.00
26	4.00	5.00	5.00	5.00	4.00
27	2.00	4.00	4.00	4.00	5.00
28	2.00	4.00	2.00	3.00	3.00
29	1.00	4.00	4.00	5.00	4.00
30	4.00	5.00	3.00	5.00	5.00
31	3.00	5.00	3.00	2.00	1.00
32	2.00	5.00	5.00	5.00	4.00
33	2.00	5.00	5.00	5.00	5.00
34	2.00	5.00	5.00	4.00	5.00
35	2.00	4.00	3.00	4.00	4.00
36	1.00	4.00	3.00	4.00	4.00
37	2.00	3.00	4.00	5.00	5.00
38	1.00	4.00	2.00	3.00	4.00
39	2.00	3.00	4.00	4.00	2.00
40	6.00	5.00	5.00	5.00	5.00



FIRMS	VAADD11F	CUST14A	CUST14B	CUST14C	CUST14D
41	1.00	5.00	3.00	4.00	3.00
42	2.00	1.00	3.00	2.00	3.00
43	6.00	3.00	5.00	3.00	4.00
44	1.00	5.00	4.00	4.00	5.00
45	5.00	5.00	5.00	5.00	5.00
46	2.00	5.00	3.00	3.00	5.00
47	2.00	3.00	3.00	2.00	5.00
48	1.00	3.00	5.00	4.00	4.00
49	4.00	5.00	5.00	5.00	5.00
50	4.00	5.00	4.00	3.00	5.00
51	6.00	4.00	5.00	5.00	5.00
52	3.00	3.00	5.00	3.00	3.00
53	3.00	5.00	3.00	4.00	4.00
54	3.00	4.00	3.00	5.00	5.00
55	2.00	1.00	3.00	2.00	2.00
56	3.00	4.00	4.00	5.00	3.00
57	2.00	4.00	2.00	2.00	3.00
58	1.00	3.00	3.00	4.00	4.00
59	3.00	3.00	3.00	4.00	4.00
60	2.00	2.00	4.00	5.00	4.00
61	2.00	5.00	5.00	5.00	5.00
62	3.00	4.00	3.00	3.00	4.00
63	6.00	5.00	2.00	2.00	5.00
64	4.00	3.00	3.00	4.00	4.00
65	6.00	3.00	2.00	5.00	5.00
66	2.00	5.00	5.00	5.00	5.00
67	2.00	2.00	2.00	4.00	3.00
68	2.00	3.00	5.00	5.00	5.00
69	2.00	3.00	2.00	3.00	4.00
70	2.00	3.00	2.00	4.00	2.00
71	4.00	3.00	4.00	4.00	5.00
72	2.00	5.00	4.00	4.00	4.00
73	2.00	5.00	3.00	4.00	3.00
74	2.00	4.00	4.00	4.00	4.00
75	2.00	5.00	4.00	4.00	4.00
76	6.00	4.00	4.00	5.00	5.00
77	3.00	5.00	3.00	4.00	5.00
78	3.00	5.00	3.00	5.00	4.00
79	1.00	3.00	2.00	2.00	4.00
80	1.00	3.00	5.00	4.00	5.00
81	1.00	2.00	3.00	3.00	4.00

FIRMS	VAADD11F	CUST14A	CUST14B	CUST14C	CUST14D
82	1.00	2.00	2.00	2.00	4.00
83	4.00	5.00	3.00	5.00	4.00
84	4.00	3.00	4.00	4.00	4.00
85	4.00	3.00	4.00	4.00	4.00
86	2.00	4.00	2.00	4.00	3.00
87	3.00	5.00	3.00	3.00	5.00
88	2.00	5.00	4.00	5.00	5.00
89	2.00	4.00	2.00	4.00	4.00
90	4.00	5.00	5.00	5.00	5.00
91	4.00	3.00	4.00	5.00	5.00
92	1.00	5.00	2.00	3.00	3.00
93	2.00	3.00	4.00	4.00	5.00
94	3.00	4.00	2.00	3.00	2.00
95	2.00	4.00	3.00	2.00	4.00
96	2.00	3.00	2.00	5.00	4.00
97	1.00	2.00	2.00	4.00	3.00
98	5.00	5.00	3.00	5.00	5.00
99	1.00	5.00	2.00	2.00	3.00
100	1.00	3.00	3.00	4.00	3.00
101	2.00	5.00	5.00	5.00	5.00
102	1.00	4.00	1.00	2.00	2.00
103	1.00	3.00	3.00	4.00	2.00
104	5.00	4.00	4.00	4.00	5.00
105	4.00	4.00	5.00	5.00	5.00
106	1.00	5.00	2.00	4.00	3.00
107	1.00	5.00	3.00	5.00	5.00

FIRMS	CUST14E	COMP15A	COMP15B	COMP15C	COMP15D
1	5.00	4.00	4.00	4.00	1.00
2	5.00	3.00	3.00	3.00	3.00
3	4.00	4.00	3.00	4.00	4.00
4	5.00	3.00	4.00	2.00	2.00
5	4.00	3.00	5.00	2.00	4.00
6	3.00	1.00	1.00	4.00	2.00
7	5.00	2.00	2.00	1.00	1.00
8	5.00	3.00	1.00	1.00	1.00
9	5.00	2.00	1.00	2.00	1.00
10	5.00	1.00	1.00	1.00	2.00
11	4.00	4.00	5.00	3.00	5.00
12	5.00	4.00	3.00	5.00	3.00
13	5.00	1.00	2.00	4.00	2.00
14	5.00	5.00	5.00	5.00	5.00
15	1.00	2.00	2.00	2.00	2.00
16	4.00	1.00	3.00	2.00	3.00
17	4.00	4.00	4.00	4.00	4.00
18	5.00	4.00	5.00	3.00	5.00
19	5.00	3.00	4.00	4.00	3.00
20	3.00	2.00	4.00	3.00	5.00
21	5.00	1.00	1.00	3.00	1.00
22	5.00	3.00	4.00	5.00	4.00
23	5.00	4.00	3.00	3.00	2.00
24	5.00	3.00	4.00	3.00	3.00
25	4.00	4.00	2.00	2.00	3.00
26	5.00	3.00	4.00	4.00	4.00
27	5.00	4.00	4.00	4.00	5.00
28	5.00	1.00	3.00	4.00	2.00
29	5.00	5.00	4.00	3.00	3.00
30	5.00	2.00	2.00	3.00	3.00
31	4.00	5.00	3.00	2.00	1.00
32	5.00	4.00	4.00	2.00	4.00
33	5.00	4.00	4.00	4.00	4.00
34	5.00	4.00	3.00	2.00	2.00
35	5.00	4.00	4.00	3.00	3.00
36	3.00	3.00	4.00	3.00	2.00
37	4.00	5.00	4.00	3.00	3.00
38	5.00	5.00	2.00	5.00	5.00
39	5.00	3.00	1.00	1.00	1.00
40	5.00	4.00	5.00	5.00	5.00

<b>FIRMS</b>	<b>CUST14E</b>	<b>COMP15A</b>	<b>COMP15B</b>	<b>COMP15C</b>	<b>COMP15D</b>
41	5.00	2.00	3.00	4.00	1.00
42	1.00	2.00	2.00	3.00	2.00
43	5.00	1.00	2.00	3.00	1.00
44	5.00	4.00	4.00	4.00	5.00
45	5.00	4.00	3.00	4.00	4.00
46	5.00	1.00	3.00	1.00	1.00
47	3.00	3.00	2.00	1.00	1.00
48	4.00	4.00	4.00	3.00	3.00
49	5.00	3.00	4.00	4.00	4.00
50	5.00	3.00	4.00	4.00	4.00
51	4.00	3.00	5.00	5.00	5.00
52	3.00	4.00	4.00	4.00	3.00
53	5.00	3.00	3.00	4.00	3.00
54	5.00	4.00	4.00	5.00	5.00
55	1.00	1.00	4.00	2.00	3.00
56	5.00	5.00	4.00	5.00	5.00
57	5.00	4.00	5.00	4.00	3.00
58	2.00	4.00	4.00	4.00	5.00
59	3.00	2.00	3.00	4.00	2.00
60	5.00	5.00	5.00	4.00	4.00
61	5.00	4.00	4.00	4.00	5.00
62	4.00	4.00	3.00	4.00	4.00
63	2.00	1.00	2.00	4.00	3.00
64	5.00	1.00	1.00	1.00	2.00
65	5.00	4.00	3.00	4.00	2.00
66	5.00	3.00	3.00	4.00	5.00
67	4.00	2.00	2.00	4.00	1.00
68	3.00	4.00	3.00	4.00	2.00
69	4.00	1.00	1.00	2.00	2.00
70	5.00	2.00	3.00	4.00	1.00
71	4.00	3.00	4.00	4.00	4.00
72	5.00	4.00	3.00	4.00	4.00
73	3.00	3.00	2.00	1.00	2.00
74	5.00	4.00	4.00	4.00	4.00
75	4.00	4.00	4.00	3.00	4.00
76	4.00	4.00	4.00	4.00	4.00
77	4.00	4.00	4.00	4.00	5.00
78	5.00	2.00	1.00	1.00	3.00
79	2.00	5.00	4.00	4.00	4.00
80	4.00	3.00	3.00	4.00	4.00
81	3.00	4.00	4.00	4.00	3.00

<b>FIRMS</b>	<b>CUST14E</b>	<b>COMP15A</b>	<b>COMP15B</b>	<b>COMP15C</b>	<b>COMP15D</b>
<b>82</b>	4.00	3.00	4.00	5.00	5.00
<b>83</b>	5.00	4.00	4.00	4.00	4.00
<b>84</b>	5.00	4.00	4.00	5.00	3.00
<b>85</b>	5.00	5.00	1.00	1.00	2.00
<b>86</b>	5.00	5.00	1.00	1.00	1.00
<b>87</b>	5.00	4.00	2.00	4.00	4.00
<b>88</b>	5.00	2.00	2.00	2.00	5.00
<b>89</b>	2.00	4.00	5.00	4.00	4.00
<b>90</b>	5.00	1.00	1.00	2.00	1.00
<b>91</b>	4.00	2.00	2.00	2.00	1.00
<b>92</b>	5.00	4.00	3.00	4.00	3.00
<b>93</b>	4.00	1.00	2.00	2.00	2.00
<b>94</b>	3.00	5.00	4.00	4.00	3.00
<b>95</b>	4.00	4.00	2.00	4.00	5.00
<b>96</b>	2.00	2.00	5.00	3.00	4.00
<b>97</b>	5.00	5.00	4.00	2.00	1.00
<b>98</b>	5.00	4.00	4.00	4.00	5.00
<b>99</b>	4.00	5.00	2.00	4.00	4.00
<b>100</b>	4.00	4.00	5.00	3.00	4.00
<b>101</b>	5.00	5.00	5.00	5.00	4.00
<b>102</b>	4.00	4.00	4.00	4.00	2.00
<b>103</b>	5.00	4.00	2.00	3.00	3.00
<b>104</b>	5.00	1.00	1.00	1.00	2.00
<b>105</b>	4.00	3.00	3.00	3.00	4.00
<b>106</b>	5.00	2.00	2.00	1.00	1.00
<b>107</b>	5.00	3.00	4.00	5.00	4.00

<b>FIRMS</b>	<b>INTFU16A</b>	<b>INTFU16B</b>	<b>INTFU16C</b>	<b>INTFU16D</b>	<b>LONG17A</b>
<b>1</b>	1.00	1.00	1.00	1.00	1.00
<b>2</b>	3.00	4.00	3.00	4.00	3.00
<b>3</b>	5.00	5.00	5.00	3.00	4.00
<b>4</b>	3.00	3.00	3.00	3.00	4.00
<b>5</b>	4.00	4.00	5.00	4.00	5.00
<b>6</b>	2.00	2.00	4.00	2.00	3.00
<b>7</b>	3.00	2.00	5.00	4.00	4.00
<b>8</b>	3.00	4.00	4.00	3.00	1.00
<b>9</b>	4.00	3.00	3.00	2.00	3.00
<b>10</b>	2.00	3.00	4.00	2.00	2.00
<b>11</b>	3.00	5.00	4.00	4.00	5.00
<b>12</b>	5.00	4.00	2.00	4.00	2.00
<b>13</b>	3.00	5.00	3.00	4.00	4.00
<b>14</b>	4.00	4.00	4.00	4.00	4.00
<b>15</b>	1.00	2.00	1.00	1.00	2.00
<b>16</b>	1.00	3.00	4.00	3.00	5.00
<b>17</b>	3.00	4.00	3.00	3.00	5.00
<b>18</b>	3.00	4.00	4.00	3.00	5.00
<b>19</b>	3.00	4.00	4.00	3.00	4.00
<b>20</b>	4.00	3.00	5.00	2.00	2.00
<b>21</b>	5.00	5.00	4.00	5.00	5.00
<b>22</b>	2.00	3.00	4.00	2.00	4.00
<b>23</b>	4.00	3.00	4.00	4.00	4.00
<b>24</b>	4.00	4.00	3.00	4.00	4.00
<b>25</b>	4.00	4.00	5.00	2.00	4.00
<b>26</b>	3.00	3.00	2.00	2.00	4.00
<b>27</b>	3.00	3.00	4.00	5.00	4.00
<b>28</b>	1.00	2.00	3.00	4.00	3.00
<b>29</b>	4.00	4.00	3.00	3.00	4.00
<b>30</b>	4.00	4.00	3.00	3.00	3.00
<b>31</b>	2.00	3.00	5.00	4.00	4.00
<b>32</b>	4.00	4.00	5.00	3.00	4.00
<b>33</b>	4.00	4.00	5.00	4.00	3.00
<b>34</b>	4.00	4.00	4.00	4.00	5.00
<b>35</b>	4.00	4.00	3.00	3.00	3.00
<b>36</b>	1.00	3.00	4.00	4.00	4.00
<b>37</b>	4.00	4.00	4.00	3.00	4.00
<b>38</b>	5.00	5.00	5.00	5.00	4.00
<b>39</b>	2.00	3.00	1.00	2.00	1.00
<b>40</b>	5.00	5.00	5.00	5.00	5.00

FIRMS	INTFU16A	INTFU16B	INTFU16C	INTFU16D	LONG17A
41	4.00	5.00	3.00	3.00	3.00
42	1.00	3.00	1.00	1.00	2.00
43	4.00	5.00	5.00	1.00	3.00
44	4.00	4.00	5.00	5.00	3.00
45	5.00	5.00	5.00	4.00	4.00
46	3.00	5.00	5.00	5.00	5.00
47	1.00	2.00	3.00	3.00	1.00
48	2.00	2.00	2.00	4.00	5.00
49	4.00	4.00	2.00	4.00	4.00
50	3.00	3.00	4.00	3.00	4.00
51	4.00	3.00	5.00	5.00	4.00
52	3.00	4.00	3.00	4.00	2.00
53	4.00	5.00	4.00	4.00	4.00
54	3.00	3.00	4.00	3.00	5.00
55	3.00	2.00	1.00	4.00	3.00
56	3.00	4.00	5.00	2.00	4.00
57	4.00	4.00	3.00	2.00	5.00
58	2.00	3.00	3.00	4.00	2.00
59	4.00	4.00	4.00	4.00	5.00
60	3.00	4.00	5.00	5.00	5.00
61	4.00	4.00	4.00	4.00	4.00
62	2.00	4.00	4.00	4.00	2.00
63	5.00	5.00	4.00	4.00	4.00
64	5.00	5.00	4.00	4.00	2.00
65	2.00	2.00	3.00	3.00	4.00
66	5.00	5.00	5.00	5.00	5.00
67	1.00	1.00	1.00	3.00	3.00
68	1.00	5.00	3.00	2.00	4.00
69	1.00	1.00	4.00	1.00	2.00
70	1.00	3.00	5.00	2.00	1.00
71	4.00	4.00	3.00	3.00	3.00
72	2.00	4.00	3.00	4.00	4.00
73	4.00	3.00	2.00	3.00	1.00
74	3.00	3.00	3.00	4.00	4.00
75	3.00	3.00	4.00	3.00	5.00
76	3.00	3.00	3.00	5.00	5.00
77	5.00	5.00	4.00	4.00	5.00
78	3.00	3.00	4.00	3.00	3.00
79	5.00	5.00	4.00	3.00	4.00
80	2.00	4.00	3.00	3.00	3.00
81	3.00	4.00	3.00	3.00	3.00

<b>FIRMS</b>	<b>INTFU16A</b>	<b>INTFU16B</b>	<b>INTFU16C</b>	<b>INTFU16D</b>	<b>LONG17A</b>
<b>82</b>	2.00	3.00	3.00	4.00	3.00
<b>83</b>	4.00	3.00	3.00	2.00	4.00
<b>84</b>	4.00	4.00	3.00	5.00	4.00
<b>85</b>	4.00	4.00	4.00	4.00	5.00
<b>86</b>	2.00	4.00	4.00	1.00	3.00
<b>87</b>	4.00	4.00	4.00	4.00	3.00
<b>88</b>	5.00	5.00	5.00	5.00	5.00
<b>89</b>	2.00	3.00	2.00	1.00	1.00
<b>90</b>	5.00	5.00	5.00	3.00	5.00
<b>91</b>	4.00	4.00	3.00	2.00	3.00
<b>92</b>	4.00	4.00	2.00	3.00	2.00
<b>93</b>	3.00	4.00	4.00	5.00	5.00
<b>94</b>	1.00	2.00	2.00	2.00	5.00
<b>95</b>	2.00	2.00	3.00	3.00	4.00
<b>96</b>	5.00	3.00	4.00	2.00	4.00
<b>97</b>	3.00	2.00	4.00	2.00	2.00
<b>98</b>	2.00	3.00	2.00	2.00	2.00
<b>99</b>	2.00	2.00	3.00	4.00	4.00
<b>100</b>	4.00	3.00	3.00	4.00	5.00
<b>101</b>	3.00	4.00	5.00	5.00	5.00
<b>102</b>	2.00	3.00	2.00	2.00	4.00
<b>103</b>	2.00	2.00	2.00	3.00	5.00
<b>104</b>	5.00	4.00	4.00	3.00	5.00
<b>105</b>	3.00	5.00	4.00	5.00	5.00
<b>106</b>	3.00	1.00	1.00	1.00	5.00
<b>107</b>	4.00	4.00	4.00	4.00	5.00



<b>FIRMS</b>	<b>LONG17B</b>	<b>LONG17C</b>	<b>LONG17D</b>	<b>PROF18A</b>	<b>PROF18B</b>
1	4.00	2.00	4.00	5.00	4.00
2	4.00	4.00	3.00	3.00	3.00
3	5.00	5.00	5.00	3.00	1.00
4	5.00	4.00	4.00	4.00	4.00
5	5.00	5.00	4.00	2.00	2.00
6	2.00	3.00	3.00	2.00	2.00
7	4.00	4.00	4.00	2.00	1.00
8	4.00	4.00	2.00	4.00	4.00
9	4.00	3.00	2.00	3.00	3.00
10	5.00	4.00	5.00	1.00	1.00
11	5.00	4.00	4.00	4.00	4.00
12	4.00	4.00	4.00	4.00	3.00
13	5.00	3.00	4.00	4.00	2.00
14	5.00	5.00	5.00	5.00	5.00
15	4.00	2.00	2.00	1.00	1.00
16	4.00	4.00	4.00	3.00	2.00
17	5.00	5.00	5.00	3.00	3.00
18	5.00	4.00	4.00	3.00	3.00
19	5.00	4.00	3.00	2.00	2.00
20	4.00	5.00	3.00	4.00	3.00
21	5.00	5.00	4.00	2.00	2.00
22	4.00	4.00	5.00	5.00	4.00
23	4.00	4.00	3.00	2.00	2.00
24	5.00	5.00	5.00	4.00	3.00
25	4.00	4.00	3.00	4.00	4.00
26	5.00	5.00	5.00	5.00	4.00
27	4.00	4.00	3.00	4.00	5.00
28	4.00	1.00	2.00	2.00	1.00
29	4.00	4.00	3.00	2.00	2.00
30	5.00	4.00	4.00	4.00	3.00
31	5.00	2.00	3.00	4.00	3.00
32	3.00	4.00	5.00	4.00	3.00
33	5.00	3.00	4.00	1.00	2.00
34	5.00	5.00	5.00	3.00	3.00
35	5.00	5.00	3.00	4.00	4.00
36	4.00	4.00	3.00	3.00	3.00
37	4.00	4.00	3.00	4.00	3.00
38	3.00	2.00	3.00	3.00	4.00
39	4.00	4.00	3.00	5.00	1.00
40	5.00	5.00	5.00	4.00	4.00

<b>FIRMS</b>	<b>LONG17B</b>	<b>LONG17C</b>	<b>LONG17D</b>	<b>PROF18A</b>	<b>PROF18B</b>
41	5.00	4.00	3.00	5.00	4.00
42	2.00	2.00	1.00	2.00	1.00
43	5.00	4.00	4.00	3.00	5.00
44	5.00	4.00	4.00	4.00	5.00
45	5.00	4.00	4.00	4.00	3.00
46	5.00	3.00	3.00	3.00	5.00
47	3.00	2.00	1.00	1.00	1.00
48	5.00	5.00	5.00	4.00	5.00
49	5.00	5.00	4.00	3.00	4.00
50	4.00	4.00	4.00	4.00	3.00
51	3.00	5.00	3.00	3.00	5.00
52	3.00	4.00	5.00	3.00	2.00
53	5.00	4.00	4.00	3.00	4.00
54	5.00	5.00	4.00	4.00	5.00
55	1.00	4.00	2.00	1.00	5.00
56	5.00	5.00	2.00	5.00	2.00
57	4.00	5.00	3.00	4.00	3.00
58	4.00	2.00	2.00	2.00	2.00
59	4.00	4.00	4.00	4.00	4.00
60	5.00	5.00	4.00	4.00	4.00
61	5.00	4.00	4.00	5.00	5.00
62	3.00	1.00	1.00	3.00	3.00
63	5.00	5.00	4.00	5.00	4.00
64	4.00	4.00	5.00	4.00	2.00
65	3.00	4.00	4.00	5.00	4.00
66	4.00	5.00	5.00	1.00	1.00
67	3.00	2.00	3.00	1.00	2.00
68	3.00	3.00	2.00	5.00	4.00
69	2.00	2.00	2.00	4.00	4.00
70	4.00	2.00	3.00	2.00	3.00
71	4.00	5.00	3.00	3.00	3.00
72	4.00	4.00	3.00	4.00	3.00
73	5.00	3.00	2.00	1.00	2.00
74	5.00	4.00	4.00	4.00	4.00
75	5.00	5.00	5.00	4.00	5.00
76	4.00	4.00	5.00	5.00	4.00
77	4.00	5.00	4.00	3.00	3.00
78	5.00	3.00	4.00	3.00	5.00
79	3.00	3.00	5.00	3.00	3.00
80	3.00	3.00	2.00	3.00	2.00
81	4.00	3.00	3.00	4.00	3.00

<b>FIRMS</b>	<b>LONG17B</b>	<b>LONG17C</b>	<b>LONG17D</b>	<b>PROF18A</b>	<b>PROF18B</b>
<b>82</b>	3.00	3.00	3.00	3.00	2.00
<b>83</b>	4.00	5.00	5.00	4.00	4.00
<b>84</b>	5.00	4.00	4.00	5.00	4.00
<b>85</b>	4.00	4.00	4.00	4.00	4.00
<b>86</b>	5.00	4.00	4.00	3.00	3.00
<b>87</b>	5.00	3.00	3.00	5.00	1.00
<b>88</b>	5.00	5.00	5.00	4.00	3.00
<b>89</b>	2.00	4.00	4.00	2.00	4.00
<b>90</b>	5.00	5.00	5.00	5.00	5.00
<b>91</b>	2.00	3.00	2.00	5.00	5.00
<b>92</b>	4.00	3.00	3.00	1.00	2.00
<b>93</b>	5.00	3.00	4.00	4.00	2.00
<b>94</b>	4.00	4.00	4.00	4.00	4.00
<b>95</b>	3.00	5.00	4.00	3.00	4.00
<b>96</b>	5.00	2.00	3.00	5.00	4.00
<b>97</b>	4.00	3.00	3.00	3.00	1.00
<b>98</b>	5.00	4.00	4.00	4.00	4.00
<b>99</b>	4.00	4.00	4.00	3.00	4.00
<b>100</b>	4.00	5.00	5.00	3.00	3.00
<b>101</b>	5.00	5.00	4.00	4.00	2.00
<b>102</b>	3.00	3.00	3.00	3.00	4.00
<b>103</b>	5.00	4.00	3.00	2.00	2.00
<b>104</b>	4.00	5.00	5.00	5.00	4.00
<b>105</b>	5.00	4.00	5.00	5.00	5.00
<b>106</b>	5.00	5.00	5.00	3.00	3.00
<b>107</b>	5.00	5.00	5.00	4.00	3.00

FIRMS	PROF18C	PROF18D	PROF18E	VADD19A	VADD19B
1	4.00	5.00	2.00	4.00	2.00
2	3.00	4.00	3.00	3.00	4.00
3	4.00	5.00	4.00	2.00	4.00
4	3.00	5.00	4.00	4.00	5.00
5	5.00	5.00	4.00	5.00	5.00
6	3.00	5.00	1.00	1.00	2.00
7	1.00	1.00	1.00	2.00	4.00
8	1.00	4.00	5.00	4.00	5.00
9	4.00	3.00	4.00	4.00	3.00
10	4.00	5.00	3.00	2.00	5.00
11	4.00	5.00	5.00	4.00	5.00
12	4.00	5.00	1.00	4.00	4.00
13	3.00	5.00	1.00	3.00	4.00
14	5.00	5.00	3.00	4.00	4.00
15	3.00	4.00	3.00	2.00	4.00
16	2.00	4.00	3.00	1.00	5.00
17	4.00	4.00	3.00	4.00	4.00
18	5.00	5.00	4.00	2.00	4.00
19	3.00	4.00	2.00	3.00	4.00
20	5.00	2.00	1.00	4.00	3.00
21	3.00	5.00	3.00	5.00	5.00
22	4.00	5.00	1.00	4.00	5.00
23	3.00	2.00	2.00	2.00	3.00
24	4.00	5.00	4.00	3.00	5.00
25	3.00	4.00	3.00	3.00	5.00
26	5.00	5.00	4.00	4.00	4.00
27	4.00	4.00	2.00	3.00	4.00
28	4.00	5.00	3.00	1.00	2.00
29	2.00	5.00	1.00	2.00	5.00
30	4.00	5.00	1.00	4.00	5.00
31	5.00	2.00	1.00	5.00	5.00
32	3.00	3.00	3.00	5.00	5.00
33	2.00	1.00	2.00	5.00	5.00
34	3.00	3.00	3.00	4.00	4.00
35	4.00	3.00	2.00	4.00	4.00
36	4.00	3.00	3.00	3.00	4.00
37	5.00	4.00	21.00	4.00	4.00
38	5.00	1.00	1.00	5.00	5.00
39	5.00	5.00	3.00	1.00	5.00
40	4.00	5.00	5.00	5.00	5.00

FIRMS	PROF18C	PROF18D	PROF18E	VADD19A	VADD19B
41	3.00	2.00	3.00	3.00	5.00
42	1.00	1.00	1.00	3.00	3.00
43	2.00	3.00	1.00	5.00	5.00
44	5.00	4.00	1.00	4.00	5.00
45	3.00	4.00	3.00	4.00	5.00
46	53.00	3.00	5.00	3.00	5.00
47	1.00	1.00	2.00	3.00	5.00
48	5.00	5.00	3.00	3.00	5.00
49	3.00	2.00	1.00	3.00	5.00
50	3.00	4.00	3.00	5.00	5.00
51	4.00	5.00	3.00	4.00	5.00
52	4.00	4.00	2.00	5.00	5.00
53	3.00	5.00	3.00	4.00	5.00
54	4.00	5.00	3.00	5.00	5.00
55	3.00	4.00	2.00	2.00	1.00
56	4.00	3.00	2.00	2.00	2.00
57	4.00	4.00	4.00	3.00	5.00
58	4.00	4.00	3.00	4.00	3.00
59	4.00	4.00	4.00	3.00	5.00
60	4.00	3.00	1.00	5.00	4.00
61	5.00	5.00	3.00	5.00	4.00
62	2.00	3.00	1.00	4.00	5.00
63	4.00	5.00	3.00	4.00	5.00
64	4.00	5.00	3.00	4.00	2.00
65	3.00	4.00	4.00	4.00	4.00
66	1.00	1.00	1.00	3.00	3.00
67	4.00	5.00	3.00	3.00	4.00
68	3.00	4.00	1.00	3.00	5.00
69	3.00	4.00	2.00	2.00	4.00
70	5.00	1.00	4.00	3.00	5.00
71	4.00	2.00	2.00	5.00	5.00
72	4.00	4.00	4.00	4.00	4.00
73	1.00	1.00	1.00	4.00	4.00
74	4.00	4.00	3.00	4.00	4.00
75	5.00	4.00	4.00	4.00	5.00
76	3.00	2.00	1.00	3.00	4.00
77	5.00	2.00	4.00	3.00	4.00
78	3.00	5.00	5.00	4.00	4.00
79	4.00	4.00	3.00	4.00	5.00
80	2.00	5.00	2.00	5.00	5.00
81	3.00	4.00	4.00	5.00	5.00

<b>FIRMS</b>	<b>PROF18C</b>	<b>PROF18D</b>	<b>PROF18E</b>	<b>VADD19A</b>	<b>VADD19B</b>
<b>82</b>	4.00	4.00	2.00	4.00	5.00
<b>83</b>	5.00	4.00	3.00	3.00	4.00
<b>84</b>	2.00	2.00	2.00	2.00	4.00
<b>85</b>	5.00	3.00	4.00	5.00	5.00
<b>86</b>	3.00	5.00	3.00	2.00	3.00
<b>87</b>	4.00	4.00	5.00	5.00	3.00
<b>88</b>	3.00	4.00	4.00	4.00	5.00
<b>89</b>	4.00	5.00	2.00	5.00	5.00
<b>90</b>	5.00	3.00	1.00	5.00	5.00
<b>91</b>	5.00	5.00	4.00	5.00	5.00
<b>92</b>	3.00	3.00	1.00	2.00	4.00
<b>93</b>	4.00	4.00	4.00	4.00	5.00
<b>94</b>	4.00	4.00	3.00	3.00	5.00
<b>95</b>	3.00	4.00	2.00	4.00	4.00
<b>96</b>	4.00	2.00	3.00	5.00	5.00
<b>97</b>	2.00	5.00	2.00	2.00	3.00
<b>98</b>	4.00	5.00	1.00	4.00	5.00
<b>99</b>	4.00	4.00	2.00	4.00	4.00
<b>100</b>	3.00	5.00	5.00	5.00	5.00
<b>101</b>	5.00	5.00	5.00	3.00	5.00
<b>102</b>	2.00	4.00	4.00	3.00	3.00
<b>103</b>	2.00	4.00	4.00	4.00	5.00
<b>104</b>	5.00	5.00	3.00	4.00	5.00
<b>105</b>	4.00	5.00	3.00	5.00	5.00
<b>106</b>		4.00		1.00	1.00
<b>107</b>		4.00		5.00	3.00

FIRMS	VADD19C	VADD19D	VADD19E	VADD19F	VADD19G
1	3.00	3.00	4.00	1.00	1.00
2	5.00	3.00	4.00	4.00	4.00
3	4.00	4.00	5.00	3.00	4.00
4	4.00	4.00	3.00	5.00	5.00
5	5.00	4.00	4.00	3.00	3.00
6	5.00	4.00	4.00	2.00	3.00
7	5.00	5.00	4.00	1.00	3.00
8	4.00	2.00	1.00	1.00	3.00
9	4.00	3.00	2.00	3.00	4.00
10	4.00	5.00	4.00	5.00	4.00
11	5.00	5.00	3.00	4.00	4.00
12	4.00	4.00	4.00	3.00	2.00
13	5.00	1.00	1.00	1.00	5.00
14	5.00	5.00	5.00	5.00	5.00
15	2.00	1.00	3.00	1.00	2.00
16	4.00	5.00	4.00	3.00	3.00
17	4.00	3.00	4.00	4.00	4.00
18	5.00	2.00	5.00	2.00	4.00
19	4.00	4.00	3.00	4.00	3.00
20	5.00	3.00	3.00	3.00	1.00
21	5.00	4.00	4.00	5.00	3.00
22	5.00	4.00	4.00	4.00	2.00
23	4.00	4.00	2.00	5.00	4.00
24	4.00	4.00	4.00	3.00	3.00
25	4.00	3.00	2.00	4.00	3.00
26	4.00	5.00	4.00	4.00	4.00
27	4.00	4.00	4.00	3.00	4.00
28	3.00	4.00	5.00	4.00	2.00
29	4.00	3.00	2.00	1.00	2.00
30	5.00	3.00	2.00	4.00	4.00
31	3.00	4.00	2.00	1.00	1.00
32	5.00	5.00	5.00	3.00	5.00
33	5.00	5.00	5.00	3.00	2.00
34	4.00	4.00	3.00	5.00	4.00
35	5.00	4.00	5.00	4.00	3.00
36	4.00	4.00	4.00	5.00	4.00
37	4.00	3.00	4.00	2.00	4.00
38	4.00	4.00	5.00	3.00	3.00
39	4.00	4.00	4.00	5.00	5.00
40	5.00	5.00	5.00	5.00	4.00

FIRMS	VADD19C	VADD19D	VADD19E	VADD19F	VADD19G
41	4.00	3.00	2.00	5.00	2.00
42	3.00	2.00	1.00	3.00	2.00
43	5.00	4.00	4.00	1.00	4.00
44	5.00	4.00	5.00	5.00	5.00
45	5.00	4.00	4.00	4.00	4.00
46	5.00	5.00	3.00	5.00	3.00
47	3.00	5.00	1.00	1.00	1.00
48	5.00	5.00	5.00	5.00	5.00
49	4.00	5.00	5.00	3.00	3.00
50	4.00	4.00	4.00	4.00	4.00
51	4.00	4.00	3.00	5.00	2.00
52	4.00	4.00	3.00	5.00	5.00
53	4.00	5.00	5.00	3.00	3.00
54	4.00	4.00	5.00	4.00	4.00
55	3.00	5.00	4.00	4.00	5.00
56	5.00	3.00	4.00	4.00	4.00
57	4.00	5.00	3.00	2.00	1.00
58	3.00	3.00	4.00	4.00	4.00
59	5.00	4.00	4.00	2.00	2.00
60	5.00	4.00	5.00	4.00	4.00
61	5.00	4.00	4.00	5.00	4.00
62	5.00	5.00	5.00	3.00	3.00
63	5.00	4.00	3.00	5.00	4.00
64	4.00	2.00	1.00	4.00	4.00
65	4.00	4.00	4.00	5.00	4.00
66	5.00	4.00	5.00	4.00	1.00
67	3.00	5.00	4.00	5.00	3.00
68	5.00	4.00	4.00	4.00	3.00
69	4.00	4.00	3.00	1.00	2.00
70	5.00	5.00	4.00	4.00	2.00
71	5.00	4.00	5.00	4.00	4.00
72	3.00	4.00	5.00	4.00	4.00
73	3.00	3.00	4.00	4.00	3.00
74	4.00	4.00	4.00	4.00	4.00
75	4.00	4.00	5.00	4.00	5.00
76	4.00	4.00	4.00	2.00	3.00
77	5.00	4.00	2.00	1.00	2.00
78	5.00	4.00	3.00	2.00	4.00
79	4.00	3.00	4.00	3.00	4.00
80	4.00	4.00	4.00	3.00	3.00
81	5.00	5.00	5.00	4.00	4.00



<b>FIRMS</b>	<b>VADD19C</b>	<b>VADD19D</b>	<b>VADD19E</b>	<b>VADD19F</b>	<b>VADD19G</b>
<b>82</b>	4.00	4.00	4.00	2.00	4.00
<b>83</b>	4.00	4.00	3.00	4.00	4.00
<b>84</b>	4.00	2.00	5.00	3.00	3.00
<b>85</b>	5.00	4.00	4.00	5.00	5.00
<b>86</b>	4.00	4.00	3.00	4.00	3.00
<b>87</b>	3.00	5.00	5.00	5.00	5.00
<b>88</b>	5.00	4.00	4.00	4.00	4.00
<b>89</b>	2.00	4.00	2.00	5.00	3.00
<b>90</b>	5.00	5.00	4.00	5.00	4.00
<b>91</b>	4.00	4.00	5.00	3.00	3.00
<b>92</b>	3.00	3.00	4.00	1.00	3.00
<b>93</b>	4.00	3.00	4.00	1.00	1.00
<b>94</b>	3.00	4.00	4.00	4.00	5.00
<b>95</b>	4.00	4.00	3.00	3.00	2.00
<b>96</b>	5.00	3.00	4.00	2.00	4.00
<b>97</b>	4.00	4.00	2.00	4.00	3.00
<b>98</b>	5.00	5.00	5.00	5.00	4.00
<b>99</b>	5.00	5.00	5.00	4.00	4.00
<b>100</b>	4.00	5.00	5.00	4.00	4.00
<b>101</b>	5.00	5.00	5.00	2.00	3.00
<b>102</b>	3.00	3.00	2.00	1.00	1.00
<b>103</b>	4.00	3.00	3.00	3.00	3.00
<b>104</b>	4.00	4.00	5.00	2.00	2.00
<b>105</b>	4.00	5.00	5.00	2.00	2.00
<b>106</b>	4.00	5.00	4.00	3.00	5.00
<b>107</b>	5.00	5.00	5.00	5.00	4.00

FIRMS	VADD19H	VADD19I	ENTR20A	ENTR20B	ENTR20C
1	2.00	4.00	4.00	4.00	4.00
2	2.00	3.00	3.00	3.00	4.00
3	4.00	5.00	5.00	5.00	5.00
4	4.00	4.00	3.00	4.00	3.00
5	4.00	4.00	5.00	5.00	5.00
6	3.00	4.00	2.00	2.00	2.00
7	5.00	3.00	3.00	2.00	4.00
8	1.00	4.00	5.00	5.00	5.00
9	4.00	4.00	3.00	5.00	4.00
10	3.00	4.00	3.00	4.00	4.00
11	4.00	5.00	3.00	4.00	4.00
12	4.00	1.00	5.00	4.00	5.00
13	5.00	5.00	1.00	1.00	4.00
14	4.00	4.00	5.00	3.00	4.00
15	1.00	2.00	2.00	1.00	2.00
16	3.00	4.00	3.00	4.00	4.00
17	4.00	4.00	4.00	4.00	3.00
18	4.00	4.00	2.00	3.00	4.00
19	3.00	4.00	3.00	3.00	4.00
20	3.00	2.00	5.00	3.00	4.00
21	5.00	4.00	2.00	2.00	2.00
22	2.00	2.00	4.00	2.00	4.00
23	4.00	1.00	1.00	1.00	4.00
24	4.00	4.00	3.00	2.00	3.00
25	4.00	2.00	2.00	4.00	2.00
26	4.00	5.00	4.00	3.00	4.00
27	4.00	4.00	4.00	4.00	4.00
28	3.00	1.00	5.00	3.00	4.00
29	2.00	3.00	2.00	2.00	1.00
30	4.00	5.00	3.00	1.00	2.00
31	2.00	5.00	5.00	1.00	4.00
32	5.00	5.00	5.00	4.00	4.00
33	3.00	5.00	4.00	5.00	3.00
34	4.00	4.00	4.00	5.00	5.00
35	4.00	5.00	3.00	3.00	3.00
36	4.00	4.00	5.00	3.00	4.00
37	3.00	4.00	2.00	3.00	2.00
38	4.00	3.00	4.00	3.00	5.00
39	2.00	5.00	3.00	5.00	3.00
40	5.00	5.00	5.00	4.00	4.00

FIRMS	VADD19H	VADD19I	ENTR20A	ENTR20B	ENTR20C
41	3.00	5.00	4.00	2.00	3.00
42	1.00	2.00	2.00	1.00	2.00
43	3.00	5.00	1.00	3.00	1.00
44	5.00	4.00	4.00	5.00	5.00
45	3.00	3.00	3.00	3.00	5.00
46	3.00	3.00	3.00	5.00	3.00
47	2.00	3.00	2.00	2.00	2.00
48	3.00	4.00	3.00	3.00	4.00
49	4.00	4.00	4.00	4.00	4.00
50	4.00	4.00	4.00	4.00	3.00
51	3.00	1.00	3.00	4.00	3.00
52	5.00	4.00	4.00	4.00	4.00
53	3.00	4.00	3.00	3.00	3.00
54	3.00	2.00	3.00	3.00	4.00
55	3.00	2.00	3.00	4.00	5.00
56	1.00	1.00	4.00	3.00	4.00
57	1.00	3.00	5.00	5.00	4.00
58	4.00	4.00	5.00	4.00	3.00
59	3.00	5.00	4.00	2.00	3.00
60	4.00	5.00	5.00	4.00	4.00
61	4.00	4.00	2.00	3.00	3.00
62	3.00	5.00	3.00	3.00	3.00
63	5.00	4.00	3.00	4.00	4.00
64	1.00	2.00	1.00	1.00	3.00
65	3.00	3.00	4.00	4.00	3.00
66	1.00	5.00	5.00	2.00	5.00
67	3.00	5.00	1.00	3.00	3.00
68	2.00	5.00	4.00	5.00	5.00
69	4.00	3.00	4.00	3.00	2.00
70	5.00	1.00	3.00	2.00	4.00
71	2.00	3.00	5.00	5.00	5.00
72	4.00	3.00	4.00	5.00	3.00
73	3.00	3.00	2.00	3.00	3.00
74	4.00	3.00	4.00	3.00	4.00
75	3.00	5.00	4.00	3.00	4.00
76	4.00	5.00	3.00	2.00	1.00
77	1.00	1.00	5.00	2.00	4.00
78	3.00	4.00	3.00	3.00	4.00
79	3.00	3.00	2.00	2.00	3.00
80	3.00	3.00	2.00	2.00	2.00
81	4.00	5.00	3.00	3.00	4.00

<b>FIRMS</b>	<b>VADD19H</b>	<b>VADD19I</b>	<b>ENTR20A</b>	<b>ENTR20B</b>	<b>ENTR20C</b>
<b>82</b>	3.00	4.00	1.00	3.00	3.00
<b>83</b>	4.00	4.00	4.00	3.00	3.00
<b>84</b>	4.00	4.00	2.00	2.00	3.00
<b>85</b>	3.00	5.00	4.00	3.00	4.00
<b>86</b>	3.00	2.00	4.00	4.00	5.00
<b>87</b>	1.00	5.00	4.00	1.00	4.00
<b>88</b>	4.00	3.00	4.00	3.00	3.00
<b>89</b>	1.00	2.00	4.00	4.00	3.00
<b>90</b>	2.00	2.00	5.00	2.00	3.00
<b>91</b>	2.00	5.00	4.00	3.00	4.00
<b>92</b>	3.00	4.00	3.00	3.00	3.00
<b>93</b>	1.00	5.00	4.00	3.00	4.00
<b>94</b>	3.00	4.00	4.00	2.00	4.00
<b>95</b>	3.00	4.00	3.00	2.00	2.00
<b>96</b>	3.00	2.00	3.00	4.00	4.00
<b>97</b>	2.00	5.00	2.00	3.00	4.00
<b>98</b>	3.00	3.00	3.00	5.00	5.00
<b>99</b>	3.00	4.00	3.00	3.00	1.00
<b>100</b>	5.00	4.00	5.00	4.00	2.00
<b>101</b>	2.00	5.00	5.00	3.00	5.00
<b>102</b>	1.00	1.00	2.00	2.00	2.00
<b>103</b>	3.00	2.00	2.00	3.00	3.00
<b>104</b>	5.00	3.00	1.00	5.00	2.00
<b>105</b>	5.00	5.00	5.00	3.00	4.00
<b>106</b>	1.00	2.00	3.00	2.00	2.00
<b>107</b>	3.00	5.00	3.00	3.00	5.00

<b>FIRMS</b>	<b>ENTR20D</b>	<b>ENTRE20E</b>	<b>ENTR20F</b>	<b>ENTR20G</b>	<b>ENTR20H</b>
1	1.00	1.00	1.00	1.00	1.00
2	3.00	3.00	3.00	3.00	3.00
3	3.00	4.00	5.00	5.00	2.00
4	4.00	5.00	3.00	2.00	1.00
5	4.00	5.00	4.00	5.00	5.00
6	2.00	3.00	3.00	3.00	2.00
7	1.00	5.00	4.00	2.00	4.00
8	1.00	3.00	4.00	4.00	5.00
9	1.00	5.00	4.00	3.00	4.00
10	1.00	3.00	3.00	4.00	2.00
11	5.00	4.00	4.00	4.00	5.00
12	3.00	5.00	4.00	4.00	1.00
13	2.00	4.00	2.00	1.00	5.00
14	4.00	5.00	4.00	4.00	4.00
15	1.00	4.00	1.00	2.00	2.00
16	2.00	4.00	2.00	1.00	4.00
17	3.00	4.00	4.00	2.00	3.00
18	4.00	4.00	3.00	2.00	3.00
19	4.00	4.00	3.00	4.00	3.00
20	3.00	1.00	3.00	3.00	3.00
21	2.00	2.00	2.00	2.00	3.00
22	2.00	4.00	4.00	4.00	1.00
23	3.00	4.00	4.00	4.00	4.00
24	3.00	5.00	4.00	1.00	4.00
25	2.00	4.00	4.00	4.00	4.00
26	3.00	4.00	2.00	2.00	3.00
27	5.00	4.00	4.00	3.00	4.00
28	1.00	3.00	4.00	3.00	1.00
29	2.00	5.00	5.00	3.00	4.00
30	2.00	1.00	5.00	5.00	2.00
31	1.00	4.00	4.00	4.00	4.00
32	3.00	4.00	2.00	4.00	2.00
33	3.00	5.00	5.00	4.00	4.00
34	4.00	5.00	3.00	3.00	3.00
35	3.00	4.00	4.00	3.00	4.00
36	3.00	4.00	3.00	3.00	3.00
37	2.00	4.00	3.00	3.00	4.00
38	5.00	5.00	5.00	3.00	4.00
39	2.00	3.00	3.00	1.00	2.00
40	5.00	5.00	5.00	4.00	5.00

FIRMS	ENTR20D	ENTRE20E	ENTR20F	ENTR20G	ENTR20H
41	2.00	5.00	3.00	4.00	2.00
42	1.00	1.00	2.00	2.00	1.00
43	1.00	5.00	3.00	3.00	5.00
44	4.00	5.00	5.00	5.00	5.00
45	4.00	5.00	4.00	3.00	5.00
46	3.00	5.00	3.00	3.00	5.00
47	2.00	3.00	3.00	1.00	3.00
48	4.00	5.00	3.00	4.00	2.00
49	4.00	4.00	4.00	4.00	4.00
50	4.00	4.00	3.00	3.00	4.00
51	5.00	4.00	3.00	4.00	4.00
52	3.00	5.00	5.00	5.00	4.00
53	4.00	5.00	5.00	3.00	4.00
54	5.00	4.00	4.00	5.00	5.00
55	2.00	3.00	3.00	4.00	3.00
56	4.00	5.00	5.00	3.00	4.00
57	5.00	5.00	5.00	3.00	3.00
58	2.00	3.00	4.00	3.00	3.00
59	2.00	3.00	5.00	3.00	4.00
60	5.00	5.00	5.00	3.00	4.00
61	4.00	4.00	5.00	4.00	3.00
62	4.00	4.00	3.00	3.00	3.00
63	3.00	3.00	3.00	3.00	4.00
64	2.00	4.00	4.00	1.00	4.00
65	3.00	4.00	3.00	4.00	4.00
66	5.00	5.00	5.00	2.00	4.00
67	2.00	2.00	3.00	4.00	2.00
68	3.00	4.00	1.00	3.00	4.00
69	2.00	2.00	2.00	2.00	2.00
70	1.00	5.00	1.00	4.00	4.00
71	5.00	5.00	4.00	4.00	5.00
72	5.00	4.00	3.00	4.00	3.00
73	2.00	4.00	4.00	3.00	4.00
74	5.00	5.00	4.00	4.00	4.00
75	4.00	3.00	4.00	3.00	3.00
76	4.00	3.00	4.00	2.00	3.00
77	4.00	4.00	4.00	1.00	1.00
78	3.00	4.00	3.00	3.00	4.00
79	4.00	4.00	4.00	4.00	4.00
80	2.00	2.00	3.00	2.00	3.00
81	3.00	3.00	3.00	3.00	3.00

<b>FIRMS</b>	<b>ENTR20D</b>	<b>ENTRE20E</b>	<b>ENTR20F</b>	<b>ENTR20G</b>	<b>ENTR20H</b>
<b>82</b>	4.00	4.00	3.00	2.00	3.00
<b>83</b>	4.00	5.00	3.00	3.00	3.00
<b>84</b>	2.00	4.00	2.00	3.00	4.00
<b>85</b>	4.00	4.00	3.00	3.00	4.00
<b>86</b>	1.00	4.00	3.00	3.00	4.00
<b>87</b>	5.00	4.00	4.00	2.00	4.00
<b>88</b>	5.00	3.00	3.00	3.00	3.00
<b>89</b>	2.00	4.00	2.00	3.00	5.00
<b>90</b>	2.00	5.00	1.00	1.00	5.00
<b>91</b>	3.00	4.00	2.00	1.00	4.00
<b>92</b>	3.00	4.00	4.00	3.00	2.00
<b>93</b>	3.00	4.00	3.00	2.00	4.00
<b>94</b>	3.00	4.00	2.00	2.00	3.00
<b>95</b>	4.00	4.00	3.00	2.00	3.00
<b>96</b>	3.00	4.00	4.00	3.00	4.00
<b>97</b>	2.00	4.00	4.00	5.00	5.00
<b>98</b>	5.00	5.00	2.00	4.00	2.00
<b>99</b>	4.00	4.00	4.00	3.00	4.00
<b>100</b>	3.00	3.00	4.00	2.00	3.00
<b>101</b>	5.00	5.00	3.00	3.00	5.00
<b>102</b>	3.00	3.00	3.00	2.00	1.00
<b>103</b>	3.00	4.00	4.00	4.00	3.00
<b>104</b>	1.00	5.00	4.00	4.00	5.00
<b>105</b>	3.00	5.00	5.00	3.00	4.00
<b>106</b>	4.00	2.00	2.00	4.00	2.00
<b>107</b>	2.00	3.00	4.00	4.00	4.00

FIRMS	ENTR20I	ENTR20J	ENTR20K	ENTR20L	ENTR20M
1	1.00	3.00	1.00	4.00	1.00
2	3.00	3.00	3.00	5.00	3.00
3	3.00	5.00	5.00	3.00	4.00
4	3.00	4.00	2.00	4.00	2.00
5	5.00	5.00	5.00	5.00	4.00
6	3.00	3.00	2.00	4.00	4.00
7	4.00	2.00	3.00	1.00	3.00
8	3.00	2.00	3.00	2.00	4.00
9	4.00	5.00	4.00	4.00	3.00
10	4.00	5.00	4.00	5.00	3.00
11	4.00	4.00	4.00	4.00	3.00
12	3.00	4.00	4.00	5.00	3.00
13	4.00	4.00	3.00	2.00	4.00
14	5.00	5.00	4.00	4.00	4.00
15	3.00	3.00	3.00	1.00	2.00
16	3.00	4.00	4.00	3.00	4.00
17	3.00	4.00	4.00	3.00	3.00
18	3.00	4.00	5.00	1.00	2.00
19	2.00	4.00	3.00	4.00	4.00
20	2.00	4.00	2.00	3.00	1.00
21	4.00	4.00	2.00	2.00	2.00
22	4.00	4.00	4.00	2.00	2.00
23	4.00	4.00	4.00	1.00	2.00
24	4.00	3.00	3.00	3.00	3.00
25	4.00	4.00	4.00	3.00	3.00
26	3.00	4.00	4.00	4.00	4.00
27	4.00	4.00	3.00	4.00	2.00
28	2.00	4.00	5.00	3.00	1.00
29	5.00	4.00	3.00	3.00	3.00
30	2.00	3.00	3.00	4.00	2.00
31	4.00	4.00	2.00	1.00	3.00
32	4.00	4.00	4.00	3.00	2.00
33	5.00	4.00	4.00	4.00	4.00
34	4.00	4.00	4.00	2.00	5.00
35	4.00	4.00	3.00	4.00	4.00
36	3.00	4.00	3.00	4.00	4.00
37	3.00	5.00	4.00	5.00	4.00
38	3.00	5.00	5.00	5.00	5.00
39	5.00	3.00	2.00	5.00	4.00
40	5.00	5.00	4.00	3.00	4.00



FIRMS	ENTR20I	ENTR20J	ENTR20K	ENTR20L	ENTR20M
41	1.00	4.00	3.00	5.00	4.00
42	2.00	3.00	3.00	4.00	1.00
43	4.00	5.00	4.00	4.00	3.00
44	5.00	5.00	5.00	5.00	5.00
45	5.00	4.00	3.00	4.00	2.00
46	5.00	5.00	5.00	3.00	3.00
47	2.00	4.00	3.00	1.00	3.00
48	3.00	4.00	4.00	5.00	3.00
49	5.00	4.00	4.00	4.00	4.00
50	4.00	4.00	4.00	4.00	3.00
51	5.00	4.00	4.00	5.00	3.00
52	4.00	3.00	3.00	3.00	3.00
53	4.00	5.00	4.00	5.00	3.00
54	5.00	5.00	5.00	5.00	4.00
55	4.00	1.00	2.00	5.00	4.00
56	5.00	4.00	3.00	4.00	4.00
57	5.00	5.00	5.00	5.00	3.00
58	2.00	3.00	2.00	2.00	3.00
59	4.00	3.00	4.00	5.00	3.00
60	5.00	5.00	4.00	5.00	5.00
61	2.00	5.00	5.00	5.00	4.00
62	4.00	3.00	4.00	2.00	2.00
63	3.00	4.00	4.00	3.00	4.00
64	1.00	1.00	1.00	1.00	1.00
65	4.00	4.00	3.00	5.00	3.00
66	5.00	5.00	4.00	4.00	1.00
67	2.00	4.00	4.00	1.00	2.00
68	3.00	3.00	5.00	2.00	1.00
69	2.00	2.00	2.00	1.00	2.00
70	4.00	5.00	4.00	1.00	2.00
71	5.00	4.00	4.00	4.00	4.00
72	3.00	4.00	4.00	4.00	3.00
73	3.00	3.00	3.00	2.00	2.00
74	4.00	5.00	4.00	4.00	4.00
75	5.00	5.00	4.00	4.00	5.00
76	4.00	5.00	4.00	4.00	5.00
77	3.00	5.00	3.00	4.00	4.00
78	3.00	3.00	3.00	4.00	3.00
79	3.00	3.00	3.00	4.00	4.00
80	3.00	3.00	2.00	4.00	4.00
81	3.00	4.00	4.00	3.00	3.00

<b>FIRMS</b>	<b>ENTR20I</b>	<b>ENTR20J</b>	<b>ENTR20K</b>	<b>ENTR20L</b>	<b>ENTR20M</b>
<b>82</b>	2.00	4.00	4.00	4.00	4.00
<b>83</b>	4.00	4.00	2.00	3.00	3.00
<b>84</b>	4.00	4.00	3.00	3.00	1.00
<b>85</b>	4.00	5.00	4.00	3.00	3.00
<b>86</b>	5.00	4.00	4.00	4.00	4.00
<b>87</b>	5.00	4.00	3.00	3.00	3.00
<b>88</b>	1.00	3.00	5.00	5.00	3.00
<b>89</b>	5.00	5.00	4.00	5.00	2.00
<b>90</b>	5.00	5.00	1.00	3.00	5.00
<b>91</b>	3.00	4.00	2.00	2.00	2.00
<b>92</b>	3.00	4.00	4.00	3.00	4.00
<b>93</b>	5.00	4.00	3.00	4.00	4.00
<b>94</b>	4.00	4.00	3.00	2.00	3.00
<b>95</b>	3.00	4.00	3.00	5.00	4.00
<b>96</b>	4.00	2.00	4.00	2.00	3.00
<b>97</b>	4.00	4.00	2.00	2.00	4.00
<b>98</b>	3.00	4.00	4.00	4.00	2.00
<b>99</b>	4.00	4.00	4.00	5.00	4.00
<b>100</b>	5.00	5.00	4.00	3.00	3.00
<b>101</b>	5.00	5.00	5.00	5.00	5.00
<b>102</b>	2.00	3.00	2.00	4.00	4.00
<b>103</b>	3.00	4.00	3.00	4.00	5.00
<b>104</b>	4.00	5.00	5.00	5.00	3.00
<b>105</b>	2.00	3.00	4.00	2.00	4.00
<b>106</b>	2.00	5.00	5.00	5.00	3.00
<b>107</b>	1.00	3.00	4.00	5.00	2.00

FIRMS	ENTR20N	FLUX21A	FLUX21B	FLUX21C	FLUX21D
1	3.00	1.00	1.00	1.00	1.00
2	3.00	3.00	3.00	3.00	4.00
3	5.00	2.00	2.00	2.00	2.00
4	3.00	4.00	3.00	3.00	4.00
5	4.00	2.00	4.00	2.00	4.00
6	3.00	2.00	3.00	4.00	2.00
7	3.00	2.00	2.00	2.00	3.00
8	3.00	5.00	5.00	3.00	3.00
9	4.00	3.00	3.00	3.00	4.00
10	5.00	3.00	3.00	2.00	4.00
11	4.00	4.00	4.00	3.00	5.00
12	4.00	3.00	2.00	4.00	3.00
13	3.00	5.00	5.00	4.00	4.00
14	4.00	4.00	4.00	5.00	5.00
15	2.00	2.00	2.00	1.00	3.00
16	5.00	3.00	3.00	4.00	4.00
17	4.00	3.00	4.00	2.00	3.00
18	4.00	2.00	2.00	3.00	5.00
19	3.00	4.00	3.00	3.00	4.00
20	5.00	1.00	2.00	4.00	5.00
21	4.00	5.00	2.00	4.00	4.00
22	4.00	4.00	4.00	5.00	5.00
23	2.00	3.00	4.00	3.00	3.00
24	2.00	4.00	4.00	3.00	4.00
25	4.00	3.00	3.00	2.00	3.00
26	4.00	3.00	3.00	2.00	2.00
27	3.00	4.00	4.00	2.00	3.00
28	2.00	5.00	4.00	1.00	2.00
29	2.00	3.00	2.00	1.00	2.00
30	5.00	5.00	1.00	4.00	4.00
31	5.00	5.00	5.00	5.00	5.00
32	3.00	4.00	4.00	2.00	3.00
33	5.00	4.00	3.00	3.00	4.00
34	5.00	5.00	5.00	5.00	5.00
35	4.00	3.00	4.00	3.00	4.00
36	4.00	4.00	4.00	3.00	4.00
37	5.00	4.00	4.00	2.00	1.00
38	4.00	4.00	4.00	5.00	5.00
39	3.00	3.00	4.00	5.00	4.00
40	5.00	5.00	4.00	4.00	4.00

FIRMS	ENTR20N	FLUX21A	FLUX21B	FLUX21C	FLUX21D
41	4.00	2.00	1.00	1.00	1.00
42	1.00	2.00	2.00	2.00	2.00
43	5.00	4.00	5.00	4.00	4.00
44	5.00	5.00	5.00	4.00	4.00
45	5.00	5.00	5.00	3.00	1.00
46	4.00	5.00	5.00	3.00	5.00
47	3.00	4.00	2.00	1.00	1.00
48	4.00	3.00	3.00	3.00	3.00
49	4.00	4.00	4.00	4.00	4.00
50	4.00	4.00	4.00	3.00	4.00
51	4.00	5.00	2.00	4.00	4.00
52	3.00	3.00	3.00	3.00	3.00
53	4.00	4.00	3.00	3.00	4.00
54	4.00	5.00	4.00	2.00	4.00
55	3.00	1.00	3.00	5.00	4.00
56	4.00	3.00	2.00	2.00	2.00
57	5.00	3.00	4.00	1.00	3.00
58	4.00	4.00	2.00	2.00	2.00
59	3.00	5.00	5.00	5.00	5.00
60	5.00	4.00	3.00	1.00	2.00
61	5.00	4.00	2.00	2.00	5.00
62	3.00	2.00	2.00	2.00	2.00
63	4.00	5.00	4.00	4.00	4.00
64	5.00	1.00	1.00	3.00	4.00
65	4.00	4.00	2.00	2.00	2.00
66	4.00	4.00	1.00	1.00	1.00
67	1.00	2.00	3.00	2.00	4.00
68	5.00	4.00	1.00	5.00	2.00
69	4.00	2.00	2.00	1.00	2.00
70	3.00	4.00	3.00	2.00	5.00
71	4.00	5.00	4.00	3.00	4.00
72	5.00	3.00	3.00	3.00	3.00
73	4.00	3.00	3.00	1.00	4.00
74	4.00	4.00	4.00	3.00	3.00
75	4.00	4.00	5.00	5.00	4.00
76	5.00	4.00	4.00	4.00	5.00
77	5.00	5.00	4.00	4.00	4.00
78	4.00	5.00	4.00	4.00	5.00
79	5.00	4.00	4.00	5.00	5.00
80	2.00	4.00	4.00	4.00	3.00
81	4.00	3.00	4.00	4.00	4.00

<b>FIRMS</b>	<b>ENTR20N</b>	<b>FLUX21A</b>	<b>FLUX21B</b>	<b>FLUX21C</b>	<b>FLUX21D</b>
<b>82</b>	4.00	3.00	2.00	2.00	2.00
<b>83</b>	3.00	4.00	4.00	4.00	4.00
<b>84</b>	5.00	4.00	3.00	1.00	1.00
<b>85</b>	4.00	4.00	4.00	1.00	5.00
<b>86</b>	4.00	4.00	3.00	3.00	3.00
<b>87</b>	5.00	1.00	3.00	1.00	1.00
<b>88</b>	3.00	4.00	2.00	2.00	3.00
<b>89</b>	3.00	1.00	2.00	1.00	2.00
<b>90</b>	3.00	5.00	5.00	1.00	5.00
<b>91</b>	5.00	4.00	5.00	3.00	3.00
<b>92</b>	5.00	3.00	1.00	1.00	2.00
<b>93</b>	5.00	3.00	3.00	3.00	4.00
<b>94</b>	4.00	2.00	4.00	2.00	2.00
<b>95</b>	4.00	3.00	4.00	4.00	3.00
<b>96</b>	2.00	4.00	5.00	4.00	4.00
<b>97</b>	4.00	3.00	3.00	3.00	3.00
<b>98</b>	5.00	3.00	4.00	4.00	3.00
<b>99</b>	4.00	4.00	4.00	3.00	4.00
<b>100</b>	3.00	3.00	4.00	1.00	5.00
<b>101</b>	5.00	4.00	5.00	4.00	2.00
<b>102</b>	2.00	2.00	1.00	1.00	1.00
<b>103</b>	3.00	5.00	3.00	2.00	2.00
<b>104</b>	4.00	5.00	5.00	5.00	4.00
<b>105</b>	4.00	4.00	3.00	4.00	5.00
<b>106</b>	4.00	3.00	4.00	5.00	5.00
<b>107</b>	5.00	4.00	5.00	4.00	4.00

FIRMS	FLUX21E	TEMWK22A	TEMWK22B	TEMWK22C	TEMWK22D
1	4.00	3.00	3.00	2.00	2.00
2	4.00	4.00	4.00	4.00	2.00
3	2.00	4.00	4.00	4.00	1.00
4	2.00	5.00	5.00	5.00	4.00
5	3.00	5.00	5.00	5.00	3.00
6	1.00	4.00	4.00	4.00	4.00
7	3.00	5.00	5.00	5.00	3.00
8	1.00	5.00	5.00	5.00	1.00
9	2.00	3.00	3.00	2.00	2.00
10	4.00	5.00	5.00	4.00	3.00
11	3.00	4.00	4.00	4.00	3.00
12	4.00	4.00	3.00	3.00	3.00
13	4.00	3.00	4.00	4.00	5.00
14	4.00	4.00	4.00	5.00	3.00
15	3.00	4.00	1.00	2.00	3.00
16	4.00	5.00	5.00	3.00	3.00
17	4.00	5.00	5.00	5.00	5.00
18	5.00	5.00	5.00	5.00	3.00
19	2.00	4.00	4.00	4.00	3.00
20	3.00	4.00	5.00	3.00	2.00
21	4.00	5.00	5.00	5.00	4.00
22	4.00	5.00	4.00	2.00	2.00
23	2.00	5.00	4.00	4.00	3.00
24	4.00	5.00	5.00	5.00	3.00
25	4.00	5.00	4.00	4.00	4.00
26	3.00	4.00	4.00	4.00	3.00
27	3.00	4.00	4.00	4.00	3.00
28	3.00	4.00	3.00	2.00	1.00
29	2.00	4.00	3.00	5.00	4.00
30	3.00	5.00	5.00	5.00	4.00
31	5.00	4.00	3.00	5.00	4.00
32	1.00	4.00	4.00	4.00	4.00
33	4.00	5.00	5.00	5.00	5.00
34	3.00	5.00	3.00	5.00	5.00
35	2.00	3.00	3.00	4.00	3.00
36	4.00	4.00	4.00	4.00	3.00
37	1.00	3.00	1.00	3.00	3.00
38	2.00	4.00	3.00	3.00	3.00
39	5.00	1.00	5.00	5.00	2.00
40	4.00	5.00	4.00	5.00	4.00

FIRMS	FLUX21E	TEMWK22A	TEMWK22B	TEMWK22C	TEMWK22D
41	3.00	5.00	4.00	5.00	1.00
42	1.00	4.00	2.00	2.00	2.00
43	2.00	4.00	4.00	5.00	1.00
44	3.00	5.00	5.00	5.00	2.00
45	1.00	5.00	4.00	5.00	3.00
46	1.00	5.00	4.00	5.00	5.00
47	4.00	5.00	4.00	5.00	1.00
48	1.00	4.00	4.00	1.00	1.00
49	1.00	4.00	4.00	4.00	4.00
50	3.00	5.00	5.00	5.00	3.00
51	4.00	4.00	4.00	4.00	3.00
52	3.00	3.00	3.00	3.00	3.00
53	4.00	3.00	3.00	4.00	4.00
54	3.00	5.00	5.00	5.00	5.00
55	2.00	1.00	4.00	2.00	3.00
56	4.00	2.00	2.00	4.00	3.00
57	1.00	5.00	1.00	3.00	3.00
58	2.00	4.00	2.00	3.00	2.00
59	1.00	2.00	2.00	5.00	4.00
60	1.00	4.00	4.00	4.00	3.00
61	1.00	5.00	3.00	3.00	3.00
62	1.00	3.00	2.00	2.00	2.00
63	4.00	4.00	5.00	5.00	3.00
64	4.00	3.00	1.00	4.00	1.00
65	1.00	5.00	3.00	4.00	3.00
66	1.00	5.00	1.00	4.00	1.00
67	1.00	4.00	3.00	5.00	5.00
68	3.00	1.00	5.00	5.00	1.00
69	1.00	2.00	1.00	3.00	1.00
70	1.00	4.00	2.00	4.00	1.00
71	2.00	4.00	5.00	4.00	4.00
72	3.00	3.00	4.00	4.00	3.00
73	3.00	5.00	5.00	5.00	3.00
74	2.00	3.00	3.00	3.00	3.00
75	5.00	4.00	4.00	4.00	3.00
76	1.00	3.00	4.00	4.00	3.00
77	4.00	5.00	4.00	4.00	2.00
78	2.00	3.00	4.00	4.00	3.00
79	4.00	4.00	4.00	4.00	3.00
80	4.00	4.00	3.00	2.00	1.00
81	3.00	3.00	5.00	5.00	3.00

FIRMS	FLUX21E	TEMWK22A	TEMWK22B	TEMWK22C	TEMWK22D
82	3.00	3.00	2.00	2.00	2.00
83	4.00	5.00	5.00	5.00	5.00
84	2.00	2.00	1.00	1.00	1.00
85	3.00	3.00	2.00	5.00	3.00
86	2.00	5.00	4.00	4.00	3.00
87	4.00	5.00	4.00	5.00	1.00
88	3.00	3.00	5.00	3.00	3.00
89	1.00	3.00	5.00	5.00	1.00
90	5.00	5.00	5.00	5.00	1.00
91	1.00	4.00	4.00	3.00	4.00
92	1.00	4.00	1.00	1.00	1.00
93	4.00	5.00	5.00	5.00	4.00
94	1.00	4.00	3.00	4.00	4.00
95	3.00	4.00	4.00	3.00	2.00
96	4.00	5.00	5.00	5.00	3.00
97	2.00	5.00	4.00	4.00	4.00
98	2.00	5.00	5.00	4.00	3.00
99	2.00	4.00	4.00	4.00	4.00
100	1.00	3.00	3.00	4.00	3.00
101	4.00	5.00	5.00	5.00	3.00
102	1.00	2.00	2.00	4.00	2.00
103	4.00	5.00	3.00	5.00	3.00
104	3.00	4.00	4.00	3.00	4.00
105	4.00	4.00	5.00	5.00	4.00
106	1.00	2.00	1.00	4.00	4.00
107	3.00	3.00	1.00	3.00	3.00



<b>FIRMS</b>	<b>BENAW23A</b>	<b>BENAW23B</b>	<b>BENAW23C</b>	<b>BENAW23D</b>
<b>1</b>	4.00	4.00	2.00	1.00
<b>2</b>	4.00	3.00	3.00	3.00
<b>3</b>	4.00	4.00	4.00	3.00
<b>4</b>	4.00	4.00	4.00	3.00
<b>5</b>	5.00	5.00	5.00	5.00
<b>6</b>	3.00	3.00	4.00	2.00
<b>7</b>	5.00	5.00	5.00	4.00
<b>8</b>	2.00	2.00	1.00	1.00
<b>9</b>	5.00	5.00	5.00	4.00
<b>10</b>	4.00	5.00	5.00	4.00
<b>11</b>	5.00	5.00	4.00	4.00
<b>12</b>	5.00	4.00	5.00	3.00
<b>13</b>	3.00	4.00	3.00	4.00
<b>14</b>	3.00	5.00	3.00	2.00
<b>15</b>	4.00	3.00	4.00	2.00
<b>16</b>	1.00	5.00	1.00	1.00
<b>17</b>	4.00	3.00	4.00	4.00
<b>18</b>	5.00	5.00	5.00	4.00
<b>19</b>	2.00	4.00	2.00	1.00
<b>20</b>	2.00	3.00	5.00	4.00
<b>21</b>	5.00	5.00	5.00	5.00
<b>22</b>	4.00	5.00	4.00	4.00
<b>23</b>	5.00	4.00	5.00	4.00
<b>24</b>	5.00	5.00	5.00	4.00
<b>25</b>	3.00	5.00	3.00	3.00
<b>26</b>	4.00	4.00	3.00	3.00
<b>27</b>	4.00	4.00	4.00	4.00
<b>28</b>	3.00	4.00	2.00	1.00
<b>29</b>	2.00	3.00	1.00	1.00
<b>30</b>	4.00	5.00	5.00	4.00
<b>31</b>	5.00	5.00	5.00	4.00
<b>32</b>	5.00	5.00	5.00	4.00
<b>33</b>	1.00	5.00	1.00	1.00
<b>34</b>	5.00	5.00	5.00	5.00
<b>35</b>	3.00	4.00	3.00	3.00
<b>36</b>	3.00	4.00	3.00	3.00
<b>37</b>	3.00	5.00	3.00	2.00
<b>38</b>	4.00	5.00	4.00	3.00
<b>39</b>	1.00	5.00	1.00	1.00
<b>40</b>	4.00	5.00	4.00	4.00

<b>FIRMS</b>	<b>BENAW23A</b>	<b>BENAW23B</b>	<b>BENAW23C</b>	<b>BENAW23D</b>
<b>41</b>	5.00	5.00	5.00	4.00
<b>42</b>	1.00	1.00	1.00	1.00
<b>43</b>	3.00	4.00	3.00	1.00
<b>44</b>	2.00	5.00	2.00	2.00
<b>45</b>	3.00	5.00	4.00	1.00
<b>46</b>	3.00	5.00	3.00	3.00
<b>47</b>	5.00	5.00	1.00	1.00
<b>48</b>	4.00	4.00	3.00	3.00
<b>49</b>	4.00	4.00	4.00	4.00
<b>50</b>	3.00	5.00	3.00	3.00
<b>51</b>	3.00	3.00	3.00	3.00
<b>52</b>	2.00	4.00	3.00	3.00
<b>53</b>	4.00	5.00	4.00	3.00
<b>54</b>	5.00	5.00	5.00	4.00
<b>55</b>	2.00	1.00	4.00	3.00
<b>56</b>	2.00	4.00	1.00	2.00
<b>57</b>	5.00	5.00	5.00	2.00
<b>58</b>	3.00	3.00	2.00	2.00
<b>59</b>	1.00	4.00	1.00	1.00
<b>60</b>	5.00	5.00	5.00	4.00
<b>61</b>	1.00	4.00	1.00	1.00
<b>62</b>	1.00	3.00	2.00	2.00
<b>63</b>	4.00	4.00	3.00	3.00
<b>64</b>	1.00	4.00	4.00	4.00
<b>65</b>	4.00	4.00	4.00	4.00
<b>66</b>	4.00	5.00	4.00	3.00
<b>67</b>	3.00	4.00	4.00	2.00
<b>68</b>	4.00	3.00	5.00	3.00
<b>69</b>	3.00	4.00	3.00	2.00
<b>70</b>	1.00	4.00	3.00	2.00
<b>71</b>	3.00	4.00	3.00	3.00
<b>72</b>	3.00	5.00	3.00	3.00
<b>73</b>	2.00	4.00	1.00	1.00
<b>74</b>	3.00	3.00	3.00	3.00
<b>75</b>	4.00	5.00	4.00	3.00
<b>76</b>	4.00	4.00	3.00	3.00
<b>77</b>	5.00	5.00	5.00	4.00
<b>78</b>	2.00	5.00	4.00	2.00
<b>79</b>	2.00	2.00	2.00	2.00
<b>80</b>	3.00	2.00	2.00	2.00
<b>81</b>	3.00	3.00	2.00	2.00

<b>FIRMS</b>	<b>BENAW23A</b>	<b>BENAW23B</b>	<b>BENAW23C</b>	<b>BENAW23D</b>
<b>82</b>	1.00	4.00	1.00	1.00
<b>83</b>	4.00	5.00	4.00	4.00
<b>84</b>	4.00	5.00	4.00	4.00
<b>85</b>	4.00	4.00	4.00	4.00
<b>86</b>	2.00	4.00	2.00	1.00
<b>87</b>	4.00	4.00	4.00	4.00
<b>88</b>	3.00	5.00	3.00	3.00
<b>89</b>	3.00	2.00	4.00	1.00
<b>90</b>	5.00	5.00	5.00	5.00
<b>91</b>	3.00	4.00	3.00	3.00
<b>92</b>	2.00	4.00	4.00	4.00
<b>93</b>	1.00	5.00	2.00	1.00
<b>94</b>	2.00	3.00	2.00	2.00
<b>95</b>	3.00	4.00	3.00	3.00
<b>96</b>	2.00	5.00	3.00	2.00
<b>97</b>	2.00	5.00	4.00	4.00
<b>98</b>	5.00	4.00	3.00	3.00
<b>99</b>	3.00	4.00	3.00	3.00
<b>100</b>	4.00	5.00	5.00	4.00
<b>101</b>	5.00	5.00	5.00	5.00
<b>102</b>	3.00	2.00	3.00	2.00
<b>103</b>	1.00	4.00	2.00	2.00
<b>104</b>	3.00	5.00	3.00	3.00
<b>105</b>	4.00	3.00	5.00	4.00
<b>106</b>	4.00	2.00	5.00	5.00
<b>107</b>	3.00	3.00	4.00	5.00

FIRMS	EMPRE24A	EMPRE24B	EMPRE24C	EMPRE24D	EFLEX25A
1	5.00	2.00	2.00	2.00	1.00
2	2.00	2.00	2.00	3.00	3.00
3	5.00	1.00	4.00	4.00	3.00
4	5.00	3.00	5.00	4.00	4.00
5	5.00	4.00	4.00	4.00	4.00
6	5.00	3.00	3.00	2.00	2.00
7	2.00	3.00	3.00	3.00	4.00
8	5.00	1.00	5.00	5.00	5.00
9	1.00	1.00	4.00	5.00	3.00
10	3.00	2.00	2.00	3.00	4.00
11	2.00	3.00	3.00	2.00	4.00
12	5.00	3.00	4.00	4.00	3.00
13	4.00	4.00	4.00	2.00	4.00
14	3.00	3.00	4.00	3.00	3.00
15	2.00	2.00	3.00	4.00	3.00
16	3.00	3.00	2.00	3.00	4.00
17	4.00	3.00	4.00	3.00	4.00
18	5.00	2.00	4.00	4.00	4.00
19	4.00	3.00	4.00	3.00	4.00
20	1.00	1.00	1.00	1.00	1.00
21	5.00	2.00	4.00	4.00	5.00
22	3.00	1.00	5.00	5.00	2.00
23	4.00	3.00	4.00	4.00	3.00
24	5.00	2.00	5.00	4.00	2.00
25	5.00	3.00	4.00	3.00	3.00
26	2.00	2.00	2.00	2.00	3.00
27	3.00	3.00	4.00	3.00	4.00
28	3.00	4.00	2.00	1.00	2.00
29	4.00	2.00	2.00	4.00	2.00
30	5.00	2.00	4.00	4.00	4.00
31	5.00	5.00	5.00	5.00	4.00
32	3.00	3.00	2.00	2.00	4.00
33	5.00	1.00	5.00	5.00	5.00
34	4.00	4.00	4.00	4.00	2.00
35	2.00	2.00	3.00	2.00	3.00
36	4.00	4.00	3.00	3.00	3.00
37	2.00	2.00	4.00	4.00	4.00
38	3.00	4.00	4.00	3.00	3.00
39	2.00	3.00	5.00	4.00	4.00
40	5.00	3.00	4.00	4.00	5.00

FIRMS	EMPRES24A	EMPRES24B	EMPRES24C	EMPRES24D	EFLEX25A
41	1.00	2.00	5.00	4.00	5.00
42	1.00	3.00	3.00	3.00	3.00
43	5.00	4.00	5.00	4.00	4.00
44	5.00	5.00	5.00	5.00	5.00
45	4.00	4.00	5.00	4.00	5.00
46	5.00	4.00	4.00	1.00	5.00
47	1.00	1.00	1.00	3.00	3.00
48	4.00	1.00	1.00	3.00	3.00
49	3.00	4.00	4.00	3.00	4.00
50	3.00	3.00	4.00	4.00	4.00
51	2.00	3.00	3.00	3.00	3.00
52	4.00	4.00	2.00	2.00	3.00
53	3.00	2.00	4.00	4.00	4.00
54	4.00	3.00	4.00	3.00	4.00
55	4.00	3.00	1.00	2.00	3.00
56	1.00	2.00	2.00	4.00	1.00
57	4.00	3.00	5.00	5.00	4.00
58	4.00	3.00	4.00	2.00	2.00
59	5.00	3.00	5.00	4.00	5.00
60	4.00	3.00	5.00	3.00	4.00
61	5.00	5.00	5.00	5.00	5.00
62	2.00	2.00	4.00	2.00	4.00
63	4.00	3.00	4.00	4.00	3.00
64	1.00	3.00	4.00	4.00	3.00
65	4.00	3.00	4.00	4.00	4.00
66	2.00	1.00	4.00	4.00	5.00
67	4.00	2.00	4.00	2.00	4.00
68	1.00	5.00	5.00	3.00	4.00
69	3.00	4.00	3.00	3.00	2.00
70	4.00	1.00	2.00	3.00	1.00
71	3.00	4.00	5.00	4.00	5.00
72	5.00	3.00	5.00	3.00	3.00
73	5.00	4.00	4.00	3.00	3.00
74	3.00	3.00	3.00	3.00	3.00
75	4.00	3.00	5.00	4.00	5.00
76	5.00	5.00	4.00	3.00	3.00
77	5.00	2.00	5.00	1.00	4.00
78	5.00	2.00	5.00	5.00	5.00
79	4.00	4.00	3.00	3.00	2.00
80	2.00	3.00	4.00	2.00	3.00
81	2.00	4.00	2.00	3.00	3.00

<b>FIRMS</b>	<b>EMPRE24A</b>	<b>EMPRE24B</b>	<b>EMPRE24C</b>	<b>EMPRE24D</b>	<b>EFLEX25A</b>
<b>82</b>	3.00	2.00	3.00	4.00	3.00
<b>83</b>	3.00	3.00	4.00	3.00	2.00
<b>84</b>	3.00	3.00	2.00	1.00	4.00
<b>85</b>	3.00	3.00	5.00	4.00	5.00
<b>86</b>	1.00	3.00	4.00	2.00	2.00
<b>87</b>	5.00	4.00	4.00	5.00	5.00
<b>88</b>	5.00	3.00	4.00	3.00	4.00
<b>89</b>	1.00	2.00	4.00	4.00	5.00
<b>90</b>	5.00	1.00	5.00	2.00	5.00
<b>91</b>	5.00	3.00	2.00	2.00	3.00
<b>92</b>	4.00	3.00	4.00	4.00	4.00
<b>93</b>	4.00	1.00	5.00	2.00	4.00
<b>94</b>	5.00	1.00	4.00	5.00	4.00
<b>95</b>	2.00	3.00	4.00	4.00	4.00
<b>96</b>	5.00	4.00	4.00	1.00	4.00
<b>97</b>	5.00	5.00	4.00	1.00	5.00
<b>98</b>	4.00	2.00	4.00	5.00	4.00
<b>99</b>	4.00	4.00	4.00	2.00	4.00
<b>100</b>	2.00	2.00	4.00	3.00	5.00
<b>101</b>	4.00	4.00	4.00	4.00	5.00
<b>102</b>	4.00	2.00	4.00	3.00	3.00
<b>103</b>	3.00	4.00	4.00	4.00	4.00
<b>104</b>	5.00	1.00	5.00	4.00	4.00
<b>105</b>	5.00	3.00	5.00	5.00	5.00
<b>106</b>	4.00	4.00	5.00	4.00	4.00
<b>107</b>	4.00	4.00	4.00	3.00	5.00

FIRMS	EFLEX25B	EFLEX25C	EFLEX25D	PERF26A	PERF26B
1	1.00	1.00	4.00	3.00	2.00
2	3.00	4.00	4.00	3.00	2.00
3	3.00	4.00	4.00	4.00	5.00
4	3.00	4.00	4.00	3.00	4.00
5	2.00	2.00	4.00	3.00	3.00
6	2.00	2.00	3.00	3.00	2.00
7	3.00	4.00	4.00	3.00	1.00
8	3.00	4.00	5.00	5.00	1.00
9	3.00	4.00	4.00	4.00	3.00
10	4.00	4.00	5.00	3.00	1.00
11	4.00	4.00	5.00	4.00	4.00
12	3.00	4.00	4.00	5.00	3.00
13	4.00	4.00	4.00	2.00	4.00
14	3.00	3.00	4.00	3.00	3.00
15	1.00	3.00	3.00	1.00	2.00
16	3.00	3.00	4.00	4.00	3.00
17	3.00	4.00	4.00	3.00	2.00
18	2.00	3.00	5.00	4.00	3.00
19	2.00	3.00	4.00	4.00	4.00
20	1.00	1.00	4.00	3.00	3.00
21	4.00	4.00	4.00	3.00	3.00
22	3.00	4.00	5.00	5.00	4.00
23	4.00	3.00	4.00	3.00	3.00
24	3.00	3.00	3.00	3.00	3.00
25	4.00	4.00	5.00	4.00	4.00
26	2.00	4.00	3.00	3.00	4.00
27	3.00	4.00	4.00	3.00	3.00
28	3.00	5.00	4.00	3.00	1.00
29	1.00	2.00	5.00	3.00	2.00
30	2.00	4.00	4.00	4.00	5.00
31	4.00	2.00	4.00	3.00	1.00
32	3.00	3.00	4.00	4.00	4.00
33	5.00	5.00	5.00	4.00	4.00
34	3.00	2.00	2.00	2.00	4.00
35	3.00	3.00	4.00	2.00	4.00
36	4.00	4.00	3.00	3.00	2.00
37	5.00	4.00	4.00	4.00	4.00
38	3.00	4.00	5.00	4.00	2.00
39	2.00	2.00	4.00	2.00	3.00
40	4.00	4.00	5.00	5.00	4.00

<b>FIRMS</b>	<b>EFLEX25B</b>	<b>EFLEX25C</b>	<b>EFLEX25D</b>	<b>PERF26A</b>	<b>PERF26B</b>
41	2.00	2.00	4.00	3.00	4.00
42	3.00	3.00	3.00	1.00	2.00
43	4.00	4.00	5.00	3.00	4.00
44	5.00	5.00	5.00	3.00	4.00
45	5.00	5.00	4.00	3.00	4.00
46	5.00	5.00	5.00	5.00	5.00
47	4.00	3.00	5.00	4.00	1.00
48	2.00	1.00	4.00	4.00	4.00
49	4.00	4.00	4.00	3.00	4.00
50	5.00	5.00	4.00	3.00	4.00
51	3.00	4.00	3.00	3.00	3.00
52	3.00	2.00	3.00	4.00	4.00
53	3.00	3.00	5.00	3.00	3.00
54	4.00	4.00	4.00	4.00	4.00
55	4.00	2.00	1.00	5.00	3.00
56	4.00	3.00	4.00	3.00	4.00
57	4.00	4.00	4.00	5.00	5.00
58	2.00	3.00	4.00	4.00	2.00
59	4.00	5.00	5.00	3.00	3.00
60	5.00	4.00	4.00	4.00	5.00
61	5.00	5.00	5.00	4.00	4.00
62	3.00	3.00	4.00	4.00	3.00
63	3.00	3.00	4.00	3.00	4.00
64	3.00	3.00	5.00	4.00	4.00
65	2.00	4.00	3.00	5.00	3.00
66	5.00	5.00	5.00	2.00	3.00
67	2.00	3.00	5.00	3.00	4.00
68	5.00	4.00	5.00	5.00	5.00
69	2.00	4.00	5.00	4.00	4.00
70	2.00	3.00	4.00	5.00	1.00
71	3.00	3.00	4.00	3.00	4.00
72	4.00	4.00	4.00	3.00	4.00
73	2.00	2.00	4.00	4.00	3.00
74	3.00	3.00	4.00	4.00	4.00
75	4.00	4.00	4.00	4.00	5.00
76	4.00	4.00	5.00	4.00	4.00
77	5.00	5.00	5.00	5.00	5.00
78	5.00	4.00	3.00	4.00	3.00
79	2.00	2.00	4.00	3.00	3.00
80	2.00	3.00	3.00	3.00	4.00
81	3.00	3.00	4.00	3.00	4.00



<b>FIRMS</b>	<b>EFLEX25B</b>	<b>EFLEX25C</b>	<b>EFLEX25D</b>	<b>PERF26A</b>	<b>PERF26B</b>
<b>82</b>	2.00	3.00	4.00	5.00	4.00
<b>83</b>	2.00	3.00	4.00	3.00	4.00
<b>84</b>	3.00	4.00	4.00	4.00	3.00
<b>85</b>	5.00	4.00	5.00	5.00	2.00
<b>86</b>	4.00	4.00	4.00	4.00	3.00
<b>87</b>	2.00	2.00	3.00	3.00	2.00
<b>88</b>	3.00	2.00	3.00	3.00	3.00
<b>89</b>	4.00	3.00	3.00	2.00	3.00
<b>90</b>	5.00	4.00	5.00	2.00	3.00
<b>91</b>	4.00	4.00	4.00	3.00	5.00
<b>92</b>	2.00	3.00	3.00	5.00	4.00
<b>93</b>	4.00	2.00	5.00	5.00	3.00
<b>94</b>	3.00	3.00	2.00	3.00	3.00
<b>95</b>	3.00	2.00	4.00	4.00	3.00
<b>96</b>	2.00	5.00	3.00	5.00	4.00
<b>97</b>	4.00	2.00	1.00	3.00	3.00
<b>98</b>	4.00	4.00	4.00	5.00	4.00
<b>99</b>	4.00	4.00	4.00	3.00	4.00
<b>100</b>	4.00	4.00	4.00	3.00	4.00
<b>101</b>	3.00	4.00	5.00	3.00	4.00
<b>102</b>	2.00	3.00	3.00	4.00	4.00
<b>103</b>	4.00	3.00	5.00	4.00	3.00
<b>104</b>	4.00	4.00	5.00	4.00	3.00
<b>105</b>	5.00	5.00	5.00	2.00	3.00
<b>106</b>	4.00	3.00	3.00	3.00	5.00
<b>107</b>	5.00	4.00	4.00	5.00	5.00

FIRMS	PERF26C	PERF26D	PERF26E	PERF26F	PERF26G	PERF26H	PERF26I
1	3.00	2.00	2.00	2.00	3.00	2.00	2.00
2	4.00	3.00	3.00	4.00	3.00	3.00	3.00
3	3.00	4.00	4.00	4.00	3.00	4.00	4.00
4	4.00	3.00	3.00	4.00	4.00	4.00	4.00
5	4.00	4.00	3.00	3.00	3.00	3.00	3.00
6	3.00	4.00	4.00	3.00	3.00	2.00	3.00
7	1.00	3.00	1.00	3.00	1.00	1.00	4.00
8	1.00	4.00	1.00	4.00	4.00	1.00	1.00
9	3.00	4.00	3.00	5.00	3.00	3.00	5.00
10	4.00	4.00	4.00	5.00	4.00	3.00	4.00
11	4.00	3.00	5.00	4.00	3.00	3.00	5.00
12	2.00	5.00	2.00	4.00	4.00	4.00	4.00
13	3.00	4.00	5.00	5.00	4.00	4.00	4.00
14	4.00	4.00	3.00	4.00	4.00	3.00	5.00
15	2.00	3.00	1.00	3.00	1.00	2.00	2.00
16	4.00	3.00	5.00	4.00	4.00	3.00	4.00
17	3.00	4.00	3.00	3.00	3.00	4.00	4.00
18	3.00	5.00	3.00	4.00	3.00	3.00	4.00
19	3.00	2.00	3.00	4.00	3.00	2.00	3.00
20	3.00	5.00	3.00	1.00	2.00	3.00	4.00
21	3.00	3.00	3.00	3.00	3.00	3.00	3.00
22	3.00	5.00	4.00	4.00	4.00	5.00	5.00
23	3.00	3.00	3.00	3.00	3.00	3.00	3.00
24	3.00	3.00	3.00	3.00	3.00	4.00	3.00
25	4.00	4.00	3.00	3.00	3.00	4.00	3.00
26	4.00	4.00	4.00	4.00	4.00	4.00	4.00
27	4.00	4.00	4.00	5.00	4.00	3.00	4.00
28	2.00	4.00	3.00	4.00	3.00	3.00	2.00
29	3.00	3.00	3.00	3.00	2.00	3.00	4.00
30	4.00	4.00	4.00	5.00	3.00	3.00	4.00
31	1.00	4.00	4.00	5.00	4.00	4.00	4.00
32	3.00	5.00	4.00	3.00	4.00	4.00	5.00
33	5.00	5.00	5.00	5.00	4.00	4.00	5.00
34	3.00	4.00	3.00	5.00	55.00	5.00	3.00
35	3.00	4.00	3.00	4.00	3.00	3.00	4.00
36	4.00	4.00	4.00	4.00	3.00	2.00	4.00
37	5.00	4.00	5.00	5.00	5.00	5.00	5.00
38	3.00	3.00	3.00	4.00	4.00	3.00	5.00
39	3.00	2.00	3.00	3.00	4.00	3.00	3.00
40	4.00	4.00	4.00	4.00	4.00	5.00	4.00

FIRMS	PERF26C	PERF26D	PERF26E	PERF26F	PERF26G	PERF26H	PERF26I
41	4.00	4.00	2.00	4.00	4.00	5.00	3.00
42	2.00	3.00	2.00	1.00	3.00	2.00	1.00
43	5.00	4.00	4.00	4.00	3.00	3.00	5.00
44	3.00	4.00	4.00	4.00	4.00	4.00	4.00
45	4.00	4.00	4.00	4.00	5.00	4.00	4.00
46	3.00	3.00	3.00	1.00	3.00	3.00	5.00
47	2.00	3.00	2.00	2.00	3.00	2.00	5.00
48	4.00	4.00	4.00	4.00	4.00	4.00	5.00
49	4.00	4.00	5.00	5.00	4.00	4.00	5.00
50	4.00	3.00	4.00	5.00	4.00	4.00	5.00
51	3.00	3.00	3.00	3.00	3.00	3.00	3.00
52	3.00	4.00	3.00	2.00	3.00	4.00	4.00
53	4.00	4.00	4.00	4.00	5.00	3.00	4.00
54	4.00	3.00	3.00	4.00	4.00	4.00	3.00
55	3.00	2.00	4.00	3.00	4.00	2.00	5.00
56	4.00	3.00	3.00	3.00	3.00	3.00	4.00
57	5.00	5.00	5.00	5.00	4.00	4.00	4.00
58	2.00	2.00	3.00	4.00	4.00	3.00	4.00
59	2.00	4.00	3.00	4.00	3.00	2.00	5.00
60	4.00	5.00	4.00	5.00	4.00	4.00	5.00
61	4.00	4.00	5.00	5.00	5.00	3.00	5.00
62	3.00	3.00	3.00	3.00	3.00	4.00	4.00
63	4.00	4.00	4.00	4.00	3.00	4.00	4.00
64	1.00	3.00	3.00	4.00	4.00	4.00	3.00
65	4.00	4.00	3.00	4.00	4.00	3.00	4.00
66	4.00	4.00	4.00	5.00	4.00	3.00	5.00
67	5.00	3.00	3.00	4.00	5.00	5.00	3.00
68	4.00	4.00	5.00	3.00	4.00	3.00	5.00
69	4.00	3.00	3.00	4.00	2.00	3.00	3.00
70	2.00	3.00	1.00	3.00	4.00	3.00	5.00
71	3.00	5.00	4.00	5.00	5.00	3.00	4.00
72	3.00	4.00	4.00	3.00	4.00	4.00	3.00
73	2.00	3.00	3.00	5.00	3.00	3.00	3.00
74	4.00	4.00	4.00	4.00	4.00	4.00	4.00
75	5.00	4.00	4.00	4.00	5.00	5.00	4.00
76	4.00	3.00	5.00	4.00	3.00	3.00	4.00
77	4.00	3.00	4.00	3.00	4.00	4.00	4.00
78	3.00	4.00	3.00	5.00	3.00	3.00	4.00
79	4.00	3.00	4.00	4.00	4.00	3.00	4.00
80	3.00	3.00	3.00	3.00	3.00	4.00	4.00
81	3.00	3.00	3.00	2.00	3.00	3.00	4.00

FIRMS	PERF26C	PERF26D	PERF26E	PERF26F	PERF26G	PERF26H	PERF26I
82	3.00	2.00	2.00	4.00	2.00	5.00	4.00
83	3.00	3.00	3.00	3.00	4.00	3.00	3.00
84	3.00	4.00	3.00	3.00	3.00	3.00	3.00
85	2.00	4.00	2.00	4.00	4.00	2.00	4.00
86	4.00	4.00	4.00	5.00	4.00	4.00	3.00
87	4.00	4.00	4.00	4.00	4.00	3.00	4.00
88	4.00	4.00	4.00	4.00	3.00	4.00	3.00
89	1.00	4.00	3.00	2.00	2.00	4.00	4.00
90	3.00	4.00	3.00	4.00	4.00	3.00	3.00
91	5.00	4.00	5.00	3.00	5.00	5.00	5.00
92	3.00	3.00	3.00	4.00	3.00	4.00	4.00
93	4.00	3.00	3.00	4.00	3.00	3.00	3.00
94	3.00	3.00	3.00	3.00	3.00	3.00	3.00
95	4.00	3.00	4.00	3.00	4.00	5.00	4.00
96	3.00	3.00	3.00	4.00	4.00	4.00	5.00
97	3.00	3.00	3.00	4.00	4.00	4.00	4.00
98	4.00	4.00	4.00	5.00	4.00	5.00	5.00
99	4.00	4.00	4.00	4.00	4.00	4.00	4.00
100	2.00	4.00	3.00	3.00	2.00	4.00	5.00
101	4.00	4.00	4.00	4.00	4.00	4.00	5.00
102	3.00	3.00	3.00	4.00	3.00	4.00	4.00
103	3.00	4.00	3.00	4.00	4.00	3.00	4.00
104	5.00	4.00	3.00	3.00	5.00	3.00	4.00
105	3.00	5.00	3.00	5.00	3.00	3.00	5.00
106	4.00	5.00	4.00	5.00	3.00	5.00	4.00
107	4.00	4.00	4.00	4.00	4.00	4.00	4.00

FIRMS	Customer orient	Competitor Orient	Intfunc orient	Business Maint	Longterm focus	Profit Orient
1	20.00	13.00	4.00	25.00	12.00	21.00
2	24.00	12.00	14.00	24.00	16.00	18.00
3	22.00	15.00	18.00	28.00	22.00	20.00
4	24.00	11.00	12.00	30.00	21.00	24.00
5	25.00	14.00	17.00	28.00	24.00	23.00
6	22.00	8.00	10.00	20.00	17.00	19.00
7	28.00	6.00	14.00	20.00	23.00	13.00
8	29.00	6.00	14.00	23.00	19.00	26.00
9	30.00	6.00	12.00	21.00	21.00	26.00
10	33.00	5.00	11.00	23.00	26.00	24.00
11	34.00	17.00	16.00	31.00	29.00	33.00
12	32.00	15.00	15.00	26.00	26.00	29.00
13	34.00	9.00	15.00	27.00	29.00	28.00
14	38.00	20.00	16.00	34.00	33.00	37.00
15	22.00	8.00	5.00	16.00	25.00	27.00
16	29.00	9.00	11.00	26.00	33.00	30.00
17	36.00	16.00	13.00	30.00	37.00	34.00
18	38.00	17.00	14.00	29.00	36.00	38.00
19	36.00	14.00	14.00	24.00	35.00	32.00
20	36.00	14.00	14.00	23.00	34.00	35.00
21	38.00	6.00	19.00	28.00	40.00	36.00
22	43.00	16.00	11.00	31.00	39.00	41.00
23	46.00	12.00	15.00	21.00	38.00	34.00
24	44.00	13.00	15.00	31.00	43.00	44.00
25	44.00	11.00	15.00	27.00	40.00	43.00
26	50.00	15.00	10.00	33.00	45.00	49.00
27	49.00	17.00	15.00	28.00	42.00	46.00
28	45.00	10.00	10.00	18.00	38.00	43.00
29	51.00	15.00	14.00	24.00	44.00	41.00
30	53.00	10.00	14.00	28.00	46.00	47.00
31	46.00	11.00	14.00	23.00	45.00	46.00
32	56.00	14.00	16.00	26.00	48.00	48.00
33	58.00	16.00	17.00	19.00	48.00	41.00
34	58.00	11.00	16.00	29.00	54.00	49.00
35	55.00	14.00	14.00	27.00	51.00	52.00
36	54.00	12.00	12.00	24.00	51.00	52.00
37	58.00	15.00	15.00	26.00	52.00	74.00
38	56.00	17.00	20.00	20.00	50.00	52.00
39	57.00	6.00	8.00	23.00	51.00	58.00
40	65.00	19.00	20.00	33.00	60.00	62.00

FIRMS	Customer orient	Competitor Orient	Intfunc orient	Business Maint	Longterm focus	Profit Orient
41	61.00	10.00	15.00	26.00	56.00	58.00
42	52.00	9.00	6.00	11.00	49.00	48.00
43	63.00	7.00	15.00	27.00	59.00	57.00
44	67.00	17.00	18.00	29.00	60.00	63.00
45	70.00	15.00	19.00	28.00	62.00	62.00
46	67.00	6.00	18.00	27.00	62.00	115.00
47	63.00	7.00	9.00	10.00	54.00	53.00
48	68.00	14.00	10.00	34.00	68.00	70.00
49	74.00	15.00	14.00	27.00	67.00	62.00
50	72.00	15.00	13.00	27.00	66.00	67.00
51	74.00	18.00	17.00	28.00	66.00	71.00
52	69.00	15.00	14.00	23.00	66.00	67.00
53	74.00	13.00	17.00	29.00	70.00	71.00
54	76.00	18.00	13.00	33.00	73.00	75.00
55	64.00	10.00	10.00	20.00	65.00	70.00
56	77.00	19.00	14.00	26.00	72.00	72.00
57	73.00	16.00	13.00	28.00	74.00	76.00
58	74.00	17.00	12.00	18.00	68.00	73.00
59	76.00	11.00	16.00	29.00	76.00	79.00
60	80.00	18.00	17.00	30.00	79.00	76.00
61	86.00	17.00	16.00	32.00	78.00	84.00
62	80.00	15.00	14.00	16.00	69.00	74.00
63	79.00	10.00	18.00	32.00	81.00	84.00
64	83.00	5.00	18.00	26.00	79.00	82.00
65	85.00	13.00	10.00	28.00	80.00	85.00
66	91.00	15.00	20.00	22.00	85.00	71.00
67	82.00	9.00	6.00	19.00	78.00	82.00
68	89.00	13.00	11.00	25.00	80.00	85.00
69	85.00	6.00	7.00	20.00	77.00	86.00
70	86.00	10.00	11.00	16.00	80.00	85.00
71	91.00	15.00	14.00	23.00	86.00	85.00
72	94.00	15.00	13.00	26.00	87.00	91.00
73	91.00	8.00	12.00	15.00	84.00	79.00
74	95.00	16.00	13.00	29.00	91.00	93.00
75	96.00	15.00	13.00	33.00	95.00	97.00
76	98.00	16.00	14.00	29.00	94.00	91.00
77	98.00	17.00	18.00	26.00	95.00	94.00
78	100.00	7.00	13.00	28.00	93.00	99.00
79	92.00	17.00	17.00	25.00	94.00	96.00
80	101.00	14.00	12.00	21.00	91.00	94.00
81	96.00	15.00	13.00	24.00	94.00	99.00

<b>FIRMS</b>	<b>Customer orient</b>	<b>Competitor Orient</b>	<b>Intfunc orient</b>	<b>Business Maint</b>	<b>Longterm focus</b>	<b>Profit Orient</b>
82	96.00	17.00	12.00	21.00	94.00	97.00
83	105.00	16.00	12.00	30.00	101.00	103.00
84	104.00	16.00	16.00	28.00	101.00	99.00
85	105.00	9.00	16.00	28.00	102.00	105.00
86	104.00	8.00	11.00	27.00	102.00	103.00
87	108.00	14.00	16.00	24.00	101.00	106.00
88	112.00	11.00	20.00	31.00	108.00	106.00
89	105.00	17.00	8.00	22.00	100.00	106.00
90	115.00	5.00	18.00	33.00	110.00	109.00
91	112.00	7.00	13.00	25.00	101.00	115.00
92	110.00	14.00	13.00	18.00	104.00	102.00
93	113.00	7.00	16.00	27.00	110.00	111.00
94	108.00	16.00	7.00	29.00	111.00	113.00
95	112.00	15.00	10.00	27.00	111.00	111.00
96	112.00	14.00	14.00	25.00	110.00	114.00
97	113.00	12.00	11.00	21.00	109.00	110.00
98	121.00	17.00	9.00	28.00	113.00	116.00
99	115.00	15.00	11.00	27.00	115.00	116.00
100	117.00	16.00	14.00	30.00	119.00	119.00
101	126.00	19.00	17.00	30.00	120.00	122.00
102	115.00	14.00	9.00	24.00	115.00	119.00
103	120.00	12.00	9.00	25.00	120.00	117.00
104	126.00	5.00	16.00	33.00	123.00	126.00
105	128.00	13.00	17.00	34.00	124.00	127.00
106	125.00	6.00	6.00	30.00	126.00	116.00
107	130.00	16.00	16.00	31.00	127.00	118.00

FIRMS	Value Orient	Entrep orient	Struct flux	Teamwk Orient	Employee Recogn	Employ Flex
1	26.00	33.00	9.00	10.00	11.00	8.00
2	36.00	51.00	19.00	14.00	9.00	16.00
3	41.00	68.00	13.00	13.00	14.00	17.00
4	46.00	55.00	20.00	19.00	17.00	19.00
5	47.00	81.00	20.00	18.00	17.00	17.00
6	40.00	56.00	18.00	16.00	13.00	15.00
7	46.00	62.00	19.00	18.00	11.00	22.00
8	41.00	73.00	25.00	16.00	16.00	25.00
9	49.00	80.00	24.00	10.00	11.00	23.00
10	56.00	80.00	26.00	17.00	10.00	27.00
11	61.00	89.00	30.00	15.00	10.00	28.00
12	54.00	90.00	28.00	13.00	16.00	26.00
13	56.00	79.00	35.00	16.00	14.00	29.00
14	69.00	101.00	36.00	16.00	13.00	27.00
15	48.00	74.00	26.00	10.00	11.00	25.00
16	64.00	95.00	34.00	16.00	11.00	30.00
17	69.00	99.00	33.00	20.00	14.00	32.00
18	68.00	98.00	35.00	18.00	15.00	32.00
19	70.00	105.00	35.00	15.00	14.00	32.00
20	67.00	102.00	35.00	14.00	4.00	27.00
21	82.00	98.00	40.00	19.00	15.00	38.00
22	76.00	111.00	44.00	13.00	14.00	36.00
23	75.00	111.00	38.00	16.00	15.00	37.00
24	82.00	115.00	43.00	18.00	16.00	35.00
25	80.00	123.00	40.00	17.00	15.00	41.00
26	90.00	126.00	39.00	15.00	8.00	38.00
27	88.00	133.00	43.00	15.00	13.00	42.00
28	81.00	125.00	43.00	10.00	10.00	42.00
29	82.00	131.00	39.00	16.00	12.00	39.00
30	96.00	130.00	47.00	19.00	15.00	44.00
31	90.00	139.00	56.00	16.00	20.00	45.00
32	107.00	144.00	46.00	16.00	10.00	46.00
33	104.00	158.00	51.00	20.00	16.00	53.00
34	104.00	158.00	57.00	18.00	16.00	43.00
35	108.00	155.00	51.00	13.00	9.00	48.00
36	108.00	158.00	55.00	15.00	14.00	50.00
37	106.00	160.00	49.00	10.00	12.00	54.00
38	112.00	175.00	58.00	13.00	14.00	53.00
39	113.00	161.00	60.00	13.00	14.00	51.00
40	124.00	183.00	61.00	18.00	16.00	58.00



FIRMS	Value Orient	Entrep orient	Struct flux	Teamwk Orient	Employee Recogn	Employ Flex
41	114.00	169.00	49.00	15.00	12.00	54.00
42	104.00	152.00	51.00	10.00	10.00	54.00
43	122.00	176.00	62.00	14.00	18.00	60.00
44	130.00	200.00	65.00	17.00	20.00	64.00
45	126.00	190.00	60.00	17.00	17.00	64.00
46	127.00	193.00	65.00	19.00	14.00	66.00
47	118.00	175.00	59.00	15.00	6.00	62.00
48	136.00	195.00	61.00	10.00	9.00	58.00
49	134.00	204.00	66.00	16.00	14.00	65.00
50	138.00	202.00	68.00	18.00	14.00	68.00
51	133.00	208.00	70.00	15.00	11.00	64.00
52	144.00	209.00	67.00	12.00	12.00	63.00
53	142.00	214.00	71.00	14.00	13.00	68.00
54	144.00	223.00	72.00	20.00	14.00	70.00
55	139.00	211.00	70.00	10.00	10.00	65.00
56	138.00	224.00	69.00	11.00	9.00	68.00
57	141.00	234.00	69.00	12.00	17.00	73.00
58	149.00	217.00	70.00	11.00	13.00	69.00
59	151.00	225.00	80.00	13.00	17.00	78.00
60	160.00	244.00	71.00	15.00	15.00	77.00
61	161.00	237.00	75.00	14.00	20.00	81.00
62	162.00	230.00	71.00	9.00	10.00	76.00
63	165.00	238.00	84.00	17.00	15.00	76.00
64	152.00	222.00	77.00	9.00	12.00	78.00
65	165.00	247.00	76.00	15.00	15.00	78.00
66	163.00	254.00	74.00	11.00	11.00	86.00
67	169.00	235.00	79.00	17.00	12.00	81.00
68	171.00	252.00	83.00	12.00	14.00	86.00
69	165.00	239.00	77.00	7.00	13.00	82.00
70	174.00	253.00	85.00	11.00	10.00	80.00
71	179.00	276.00	89.00	17.00	16.00	86.00
72	179.00	270.00	87.00	14.00	16.00	87.00
73	177.00	261.00	87.00	18.00	16.00	84.00
74	183.00	280.00	90.00	12.00	12.00	87.00
75	189.00	280.00	98.00	15.00	16.00	92.00
76	185.00	277.00	94.00	14.00	17.00	92.00
77	177.00	280.00	98.00	15.00	13.00	96.00
78	189.00	281.00	98.00	14.00	17.00	95.00
79	191.00	286.00	101.00	15.00	14.00	89.00

FIRMS	Value Orient	Entrep orient	Struct flux	Teamwk Orient	Employee Recogn	Employ Flex
80	194.00	276.00	99.00	10.00	11.00	91.00
81	204.00	289.00	99.00	16.00	11.00	94.00
82	198.00	291.00	94.00	9.00	12.00	94.00
83	200.00	296.00	103.00	20.00	13.00	94.00
84	199.00	294.00	95.00	5.00	9.00	99.00
85	211.00	307.00	102.00	13.00	15.00	104.00
86	200.00	311.00	101.00	16.00	10.00	100.00
87	211.00	312.00	97.00	15.00	18.00	99.00
88	213.00	311.00	102.00	14.00	15.00	100.00
89	207.00	318.00	96.00	14.00	11.00	104.00
90	217.00	316.00	111.00	16.00	13.00	109.00
91	218.00	316.00	107.00	15.00	12.00	106.00
92	211.00	324.00	100.00	7.00	15.00	104.00
93	214.00	331.00	110.00	19.00	12.00	108.00
94	223.00	326.00	105.00	15.00	15.00	106.00
95	221.00	331.00	112.00	13.00	13.00	108.00
96	225.00	334.00	117.00	18.00	14.00	110.00
97	223.00	340.00	111.00	17.00	15.00	109.00
98	235.00	347.00	114.00	17.00	15.00	114.00
99	236.00	348.00	116.00	16.00	14.00	115.00
100	241.00	349.00	114.00	13.00	11.00	117.00
101	237.00	367.00	120.00	18.00	16.00	118.00
102	222.00	341.00	108.00	10.00	13.00	113.00
103	236.00	357.00	119.00	16.00	15.00	119.00
104	242.00	365.00	126.00	15.00	15.00	121.00
105	248.00	366.00	125.00	18.00	18.00	125.00
106	238.00	363.00	124.00	11.00	17.00	120.00
107	254.00	369.00	127.00	10.00	15.00	125.00

<b>FIRMS</b>	<b>Overall Perform</b>	<b>Market Orientation</b>			
1	18.00	75.00			
2	25.00	98.00			
3	32.00	109.00			
4	29.00	112.00			
5	26.00	117.00			
6	24.00	92.00			
7	17.00	108.00			
8	18.00	107.00			
9	30.00	112.00			
10	28.00	123.00			
11	32.00	142.00			
12	29.00	127.00			
13	31.00	132.00			
14	29.00	157.00			
15	16.00	91.00			
16	30.00	130.00			
17	26.00	148.00			
18	29.00	149.00			
19	25.00	144.00			
20	25.00	140.00			
21	24.00	167.00			
22	35.00	161.00			
23	24.00	157.00			
24	25.00	172.00			
25	29.00	166.00			
26	31.00	183.00			
27	30.00	180.00			
28	22.00	154.00			
29	24.00	171.00			
30	33.00	191.00			
31	26.00	173.00			
32	32.00	205.00			
33	37.00	198.00			
34	29.00	207.00			
35	27.00	204.00			
36	27.00	198.00			
37	37.00	205.00			
38	27.00	208.00			
39	22.00	201.00			
40	34.00	242.00			

<b>FIRMS</b>	<b>Overall Perform</b>	<b>Market Orientation</b>			
41	29.00	216.00			
42	14.00	173.00			
43	32.00	227.00			
44	30.00	244.00			
45	31.00	243.00			
46	28.00	239.00			
47	21.00	200.00			
48	33.00	248.00			
49	34.00	249.00			
50	32.00	250.00			
51	24.00	252.00			
52	28.00	250.00			
53	29.00	262.00			
54	29.00	266.00			
55	27.00	233.00			
56	27.00	255.00			
57	38.00	255.00			
58	24.00	253.00			
59	26.00	272.00			
60	36.00	287.00			
61	34.00	295.00			
62	27.00	272.00			
63	31.00	294.00			
64	26.00	279.00			
65	30.00	288.00			
66	30.00	296.00			
67	30.00	276.00			
68	34.00	296.00			
69	28.00	277.00			
70	23.00	287.00			
71	31.00	307.00			
72	28.00	312.00			
73	26.00	295.00			
74	32.00	320.00			
75	35.00	331.00			
76	31.00	326.00			
77	32.00	319.00			
78	29.00	330.00			
79	28.00	325.00			
80	27.00	328.00			
81	25.00	337.00			

<b>FIRMS</b>	<b>Overall Perform</b>	<b>Market Orientation</b>			
82	29.00	327.00			
83	25.00	347.00			
84	26.00	347.00			
85	25.00	360.00			
86	31.00	342.00			
87	28.00	359.00			
88	29.00	376.00			
89	23.00	342.00			
90	25.00	383.00			
91	35.00	368.00			
92	30.00	352.00			
93	28.00	370.00			
94	24.00	367.00			
95	30.00	370.00			
96	31.00	376.00			
97	27.00	368.00			
98	36.00	393.00			
99	31.00	389.00			
100	28.00	402.00			
101	32.00	410.00			
102	29.00	370.00			
103	28.00	390.00			
104	29.00	417.00			
105	29.00	427.00			
106	35.00	399.00			
107	34.00	431.00			

## COMPANIES IN SAMPLE FRAME

1st for Foliage	Faucets
2IQ	Ferro Design Ltd
3E Security	Fifth Generation Technology
3M Commercial Graphics	Fire Training Organisation Ltd
3M Telecom Systems	Firestone Building Products
3M United Kingdom Plc	First in Services Ltd
A & J Gummers Ltd	First Security (Guards) Ltd
A & A Co-ordinated Sys Ltd	Firth Carpets Ltd
AO Smith Water Products Co	Fitness for Industry Ltd
AA Facility Services Ltd	Flavel Leisure
ABB Flakt Services Ltd	Flexiform Business Furniture Ltd
ABB Industrial Systems	Florprotect Ltd
ACL- Drayton	Flow Control Water Conservation
ACM Ltd	Flowcrete Systems Ltd
ADT Security Systems	Flowstore Systems Plc
AEI Rediffusion Music Ltd	Focal Signs Ltd
AES Control Systems	Focus Software Consultants
AHS Emstar Plc	Food Service Associates (Henley) Ltd
AKZO Nobel DEcorative Coatings	Forbo Contract Fabrics Ltd
ALC Cellite Ltd	Forbo-Nairn Ltd
AMH Interiors Ltd	Forest City Signs Ltd
AP Technical Computing Ltd	Formost A.C. & R. Ltd

APCO Europe Ltd	Formwood Ltd
APT Controls Ltd	Fosroc Expandite Ltd
APV Heat Exchangers	Francis Price
ARI Propaflor Ltd	Fray Design Ltd
AURIGA ( Europe ) plc	Frederick Restall Ltd
AVL Consultancy Ltd	Fretwell-Downing
AYH Partnership	Froling GmbH & Co
Aaztec Associates Ltd	Frontier-Pitts Ltd
Abacus Self Storage Ltd	Martin R Fry & Associates
Abastra Asbestos Removal Service Ltd	Fuel Economy Ltd
Abbey Storage	Fulton Boiler Works (Great Britain) Ltd
Abbott Bros (Southall) Limited	Furnitubes International Ltd
Abloy Security Ltd	G B Crate Hire Ltd
Absolute Action Ltd	GE Lighting Limited
Academy Systems (Successor)	GEC Meters
Accent Doors Limited	GFC Lighting Ltd
N T Access Ltd	GME UK Duct Cleaning
Acco UK Ltd	Gate-a-Mation Ltd
Adam Carpets	Gaz Inflatables Limited
Adams Environmental Ltd	Gem Vending Ltd
Adams Rite Europe Limited	Generac International
Adaptaflex Limited	General Security Ltd
Addressing Systems International Ltd	Gesika

Adshead Ratcliffe & Co Ltd	Gifford & Partners
Advanced Life Support Training Centre	Gillies Adjusting Ltd
Advanced Marketing Sys UK Ltd	Gilstock Consultants
Agema Infrared Systems	Glaverbel (UK) Ltd
Ahrend Ltd	Gledhill Water Storage Ltd
Aico Ltd	Glenhurst
Air Conditioning Direct Ltd	Gopak Ltd
Airedale International Air Conditioning Ltd	Gradus Carpets Ltd
Airflow Developments	Graham Group plc
Alan Pipe & Partners	Grahl UK Ltd
Alcoa Systems	Grampian Facilities Mgt
The Alexandra Stone Co Ltd	Granada TFM
Allen Pavitt Contracts Ltd	Granada Vending Services
Allen Power Equipment Ltd	Grant Instruments (Cambs) Ltd
Allen-Martin Conservation Ltd	Nigel Grayshon & Partners
Allermuir Contract Furniture	Green Valet Ltd
Allgood Security Hardware Ltd	Greene Belfield-Smith Division
Allsigns	Greenleaf
Alpha Blind Cleaning Services	The Greenstock Company
Alpha Technologies	Gresham Office Furniture
Altima Lighting Ltd	Group 4 Systems Ltd
Alumasc Rainwater Ltd	Group Alpha Ltd
Ambassador Services Ltd	Groupe Panache



Ambiflex Ltd	Grundmann (UK) Ltd
Ambi-Rad Limited	Grundon
Amtcor Appliances Ltd	Guardwell Security Management
The Amtico Company Ltd	Gunnebo Protection Ltd
Anders & Kern UK Ltd	Gun-Point Ltd
Andover Controls (Europe) Ltd	Guttermaster Ltd
Andrew Engineering Ltd	HEM Group
Andrews Water Heaters	HEWI (UK) Ltd
Anglo Building Products Ltd	HF Securite SA
Annton Ltd	HGA Consulting Engineers
Ano-Sonic Ltd	HNB
Anovar Ltd	HT (UK) Ltd
Antocks Lairn Ltd	HVDS Air Filters
Apex Asphalt & Paving Co	Haden Facilities Management Ltd
Apex International (UK) LTD	The Haigh Engineering Co Ltd
Apollo Fire Detectors Ltd	Hako Machines Ltd
Apollo Lighting Ltd	Haldo Developements Ltd
C & M Apostolides Ltd	George S Hall Ltd
Applied Property Research	Matthew Hall Ltd
Applied Property Research Ltd	Hall & Tawse Group Ltd
Applied Sweepers Ltd	Hall Training Centre
Aqua Cool Watercoolers	Hamber Safes
Architectural Solutions	Hamilton Litestat Group

Arjo Ltd	Hands of Wycombe
William Armes Ltd	GEA Happel Ltd
Armstrong Commercial Laundry Systems	Hatema (UK) Ltd
ArnoldFewell	Haul Waste
Art Contact Ltd	Hawk Energy Products
Art For Offices & International Art Consultants Ltd	Haworth (UK) Ltd
Artel Services Ltd	Hays Information Management
Arunhithe Ltd t/a Falco	Hazelhurst Nameplates & Signs Ltd
As Clean Ltd	The HB Sign Company
Asco Joucomatic	Heatbusters
Ashact Limited	Heatsave Ltd
Ashdown Control Services Ltd	Heatsave Ltd
Asher Systems Furniture	Heatsave Ltd
Assets Security International	Heatsave Ltd
Associated Design Managers Ltd (ADM)	Heatsave Ltd
Astral Cleaning Services	Heckmondwike FB Ltd
Atkins DGI	The Helibeam System Ltd
Atlas Group	Helifix Ltd
Atlas Wright Group	Helios (Safety & Resue Products) Ltd
Automation Facilities	P C Henderson Ltd
Autopa	Herforder (UK)
Autronica Industrial Ltd	Herman Miller Ltd
Aviation & Airport Services Ltd	Herman Miller Ltd

Ayala Abbott & Butters Ltd	Hevacomp Sales Ltd
Ayerst Analysis Ltd	Hille Ltd
Aztec Plant Displays	Hills Industries Ltd
BCIS Ltd	Hilti Ltd
BCTC-Camraso	Hiross Ltd
BDG/McColl	Hochiki Europe UK Ltd
BET Catering Services Ltd	Holophane Europe Ltd
BET Management Services	The Holt Trading Company Ltd
BFI Waste Systems	Homelux Trent
BM Stainless Steel Drains Ltd	Honeywell Control Systems Ltd
BMK Stoddard	Hornagold & Hills
BMK Stoddard	Hoval Ltd
BPT Automation Ltd	Howard Bird & Co Ltd
BPT Security Systems (UK) Ltd	Howe Green Ltd
BSB Electronics Ltd	Hudson White Ltd
BSC Consulting Engineers	Hufcor (Partitions) Limited
BVC Bivac	Humble Arnold Associates
BWA Facilities Consultancy	Hunter Douglas Ltd
Bailey Maintenance Services	Huppe Form (UK) Ltd
Michael Baker Contracts Ltd	Hydrotec (UK) Ltd
Balfour Beatty Asset & Facilities Management Ltd	Hygienic Maintenance Ltd
Ball Access Technology	Hygood Ltd

Balsam (UK) Ltd	IBP Conex
Baltimore Aircoil Ltd	ICE Ergonomics
Banafix Ltd	IMC
Barbour Index Plc	IMI Air Conditioning Ltd
Barleythorpe Management & Supervisory Training	ISS UK Ltd
Bartlett Catering Equipment Ltd	ITECS Consultancy Ltd
Barton Fisher	Ideal - Standard Ltd
Bateman Catering Limited	Ideal Williams Ltd
Bateman's Cleaning Services	Idenden
Baxi Heating Limited	Identilam Plc
Baxter & Platts Ltd	Imperial Machine Co
Beacons Business Interiors Ltd	Industcool Engineering Ltd
Beeston Heating Group	Industrial Flooring Services Ltd
Beldan (UK) Ltd	Inenco Group
Belimo Automation UK Ltd	Ingersoll-Rand Sales Co Ltd
Bench Marque	Instanta Ltd
Bene Office Furniture	Institute of Energy
Bernlite Ltd	Interaction
Beskow Manufacturing Ltd	Intercraft Designs Ltd
Bespoke Furniture Ltd	Interface Europe Limited
Beta Air Ltd	Interflow UK Ltd
Bewator (UK) Ltd	Interior Elements Ltd
Biddle Air Systems Ltd	Interior plc

Bilco UK Ltd	The Interiors Group
Birral Pumps Ltd	Interlux Ltd
Bishops Move	J T S Designs
Black Arrow Contracts Ltd	JS Humidifiers
Blenheim Exhibitions & Conferences Ltd	Jaguar Building Services Ltd
Blinds Direct Solar Control Systems	Jalite UK Ltd
B-Line Industries	Jensen Responsive Furniture
Blue Diamond Services Ltd	Jerrard Bros Plc
Blue Line Office Furniture	John Laithwaite Associates Ltd
Bolte UK Ltd	Johnson Controls
Bonar & Flotex Ltd	GL Jones Engineering Ltd
Bond	Junkers Ltd
Boon Edam Ltd	Just Mats Ltd
Borer Data Systems Ltd	KAB Seating Ltd
Bovis Building Management	KK Balers Ltd
Box Security	Kaba Locks Ltd
John Bradshaw Ltd	Kane International Ltd
Bradshaw Microwave Ltd	Karcher (UK) Ltd
Braebourne Spring Ltd	Kardex Systems
Brazier Interior Systems Ltd	kimball Europe Plc
Brecsu	Kinetica Energy Management
Breslev & Partners Ltd	Kinetics Technology Ltd
Bretford Manufacturing Ltd	Kinross Control Systems Ltd

Brian Smith Catering Services Ltd	Knurr UK Ltd
Briggs Roofing & Cladding Ltd	Kodak Facilities Management
Bright a Blind Ltd	Komfort Systems Ltd
Brightwell Dispensers Ltd	Kontron Elektronik Ltd
Bristol, UWE	L & M Group Ltd
Britannia Hygiene Plc	LMC Powersafe
Britannia Lift Ltd	LRI Ltd
BRITANNIA Software plc	NT Laidlaw Ltd
Britannia Storage Systems Ltd	DD Lamson Plc
Britewater Ltd	Laporta
British Central Electrical	Lappset UK Ltd
The British Contract Furnishing Association	Larkins Security Ltd
British Gates & Timber Ltd	Laytrad Ltd
British Seed Houses Ltd	Ledu Ltd
British Textile Technology Group	Lees Burlington Ltd
Bradsword Security Ltd	Leofric Enterprise Plc
Broadway Malyan	Lightscape Projects
Broag Ltd	Linden Consulting
Brookes (Northern) Ltd	Llewellyn SCL Ltd
Brooks Partners Ltd	Lochinvar Ltd
Brother U.K. Ltd	Logic Office Interiors
Broughton Controls Ltd	Lorne Stewart Plc
Owen Brown Ltd	Lune Metal Products Ltd

Winther Browne & Co Ltd	Luxo UK Ltd
Brune (UK) Ltd	M B Associates
Bryant Construction Limited	MITIE Group Plc
The BSS Group PLC	MJN Facilities Mgt
Budget Direct Plc	Maco (UK) Ltd
Building Maintenance Information	Magnet Events Ltd
Building & Property Facilities Management Ltd	Mailpoint Ltd
Burgess Architectural Product	Managing Change Ltd
Burland Solutions Ltd	Manpower Plc
Bushboard Parker Ltd	Marflow Engineering Ltd
Business Affairs	Marley Floors Ltd
Business Design Centre	Marshall-Tufflex Ltd
Business Edge Ltd	Mass CAFM Systems Ltd
Business Seating (Renovations) Ltd	Matrix Design Ltd
C A Training Services Ltd	Mauser Interiors (UK) Ltd
C S E Office Solutions	Maxpax International
CARDAX	McArthur Group Ltd
CBX Ltd	McKinnon & Clarke
CCA Galleries	McLarens
CCT Pipefreezing Ltd	McMillan Maintenance Ltd
CDL Associates	Menvier Security Ltd
CFM Group Ltd	Merchant Cleaners

CSE Office Solutions	Micad Systems (UK) Ltd
CTL ( Control Technology ) Ltd	Micronics Limited
CU Phosco Lighting	Mike Smith Designs
Cabot Safety Ltd	Miller Knight
Caledonian Hardwoods	Mobilite International Ltd
Calomax ( Engineers ) Ltd	Modulex Systems Ltd
Cannon Hygiene Ltd	E & R Moffat Ltd
Cape Durasteel Limited	The Mondel Group
Cape External Products Limited	Monoflame Ltd
Capitol Catering Management Services Ltd	Montana Corporation
Caradon Gent Limited	Montrose Facilities Mgt
Caradon Jones Ltd	Moon Sign Services
Caradon Mira Ltd	Move Plan
Cardinal Shoplifting Ltd	Munters MCS
Care Services Group	Murray Office Solutions
Carleton Furniture Group Ltd	Myddleton Hall Lighting
Carlton Offices Ltd	N T Martin Roberts Ltd
Carpet Care Management Association	NBA Computing Limited
The Carpet Maintenance Group	NHS Estates
Carpets International	Neatworld Ltd
Carrier Air Conditioning	Ken Negus Ltd
Carrier Services, A Division of Carrier Holdings	Neslo
Carson Office Furniture System	New Chesterton Cleaning



Carter-Parratt	Nexus
Casting Repairs Ltd	Niche Ltd
Cater Check Catering Consultancy	Nidus Ltd
Catering Developments Consultancy	Nightingale Associates
Caxton Facilities Management	Nitech Limited
Cegelec Projects Ltd	Nobbs & Jones Ltd
Ceiltech	Nordia Ltd
Cementone-Beaver Ltd	Nord-Plan Ltd
Centercore Systems Ltd	North West Training Ltd
Centraplan Property Services Ltd	Nova Sport Ltd
The Centre for Facilities Consultancy Limited	Nuaire Ltd
Centurian Security Ltd	Nullifire Ltd
Centuryan Safety Services	OCS Cleaning Limited
Chalmor Ltd	OCS Cleaning Wales Ltd
Charles Lawrence Group Plc	OCS Group Ltd
Charles Lawrence (Scotland) Ltd	OCS Smarts Group Ltd
Chasmood Ltd	OCS Smarts Group Ltd
Chelwood Brick Ltd	OLIS
Chemspec Europe Ltd	Oasis Products Ltd
Chesterfield College	Office Transformation Ltd
Chloride Power Electronics	Office Water Supplies
Chubb Locks Ltd	Old Brook (UK) Ltd

Chubb Safe Equipment Company	Oldham Signs Ltd
Chubb Wardens Ltd	Olland Industries
John Churchill (Valuers) Ltd	Orchid Ltd
Cibenze Services Plc	Orwak Linley Ltd
Cimex International Ltd	Osmor Products Ltd
Cistermiser Ltd	Overclean Ltd
Cityspace Ltd	PAC International Ltd
Petrarch Claddings Ltd	PDM Systems Ltd
Claremont Bus Envir (Euro) Ltd	PKL Group (UK) Ltd
Clayton Thermal Products Ltd	PMP Ltd
Clenaglass Ltd	PRI Ltd
Clestra Hauserman Ltd	Pace Products(UK) Ltd
Climatair	Paice Property Mgt Ltd
Climate Equipment Limited	Pall Mall Services Group
Climax Cleaning Co Ltd	The Palm Group
Cobal Sign Systems Ltd	Palmer Environmental
Cochrane International	Panduit Ltd
Cochrane McGregor & Associates	Paraid Ltd
Coffee Point Plc	Doug Payne Kinetics Ltd
Colbrook Equipment	Pendax Ltd
Coldpoint Systems Limited	Pennine Telecom Ltd
Colebrook Bosson & Saunders	Pentagon Training Ltd
Collie Carpets Ltd	Peplow Roberts Ltd

Collins & Aikman UK Ltd	Percy Martin Ltd
Collmain Plc	Pergola Products Ltd
Comac Systems (Europe) Ltd	PermaRock Products Ltd
Comark Ltd	Perstorp Waverite Ltd
Comercia Equipment Sales Ltd	Pestmaster Ltd
Commtech Ltd	Philips Lighting Ltd
Composite Panels Ltd	Pick Everard
Computerguard Ltd	Pickerings Lifts Ltd
Connaught Group Ltd	Pickfords Business Services
Connections Interiors Ltd	Pierce Management Services
Consolidated Office Services Ltd	Pillinger Air Ltd
Construction Risk Partnership	Pinpoint Ltd
Construction Specialties (UK) Ltd	Plafonds Ltd
Contour Systems Ltd	Plyglass Plc
Contravent Regal	Polar International UK
Contravent Regal Ltd	Poliflexsol Ltd
Conveyors International Ltd	Polypipe Plc
Corrall-Montenay Ltd	Pooleline Systems
Corres Mexican Tiles	Portable Balers Ltd
Corsair Manufacturing Ltd	Potterton Commercial
Cosmo Ceramics Ltd	Premier Plants & Interiors
The Cost Reduction Partnership	President Blinds
Cotag International	President Office Furniture Ltd

Countrywide Grounds Maintenance Ltd	Prestige Interiors
Courtaulds Performance Films	Preston College
Coverad Ltd	Preussag Fire Protection Ltd
Peter Cox Environment Services	Primary Management
Cradle Runways	Primatred Products Ltd
Cranfield Conference Centre	Primavera Systems Inc
Cranfield University	Primo Furniture Plc
Crusader Commercial Floors	Principle Services Ltd
Crypto Peerless	Martin Pritchett Consultant
Crystal Cleaning	ProCoat (UK) Ltd
Cunningham Hart (UK) Ltd	Procord Ltd
Custom Maintenance Systems	PSION PLC
Cuxson Gerrard & Co Ltd	Purified Air Ltd
Cymap Ltd	Pyramid Facilities Mgt
Cyril Reed Associates	QPE Europe Ltd
DTZ Debenham Thorpe Building Consultancy	Quadrilect
DW Communications	Quality Marble
DZ Lighting	A Quiligotti & Co Ltd
Daikin Europe NV	Quintus Systems Ltd
Daikin Europe NV	RCD Office Furnishings Ltd
Dalair Ltd	RHR Limited
Danlers Ltd	RIW Ltd
Data Card Limited	ROC Office Furniture Ltd

Data Disposal & Destruction	Rackline Ltd
Datapro Computers Ltd	Radcliffe Resources Ltd
Dawson MMP Ltd	Radionics International
Charles Dean Partnership	Railex Systems Ltd
Deanes Furniture Ltd	Rainbovend Ltd
DeCal	Rank Xerox Business Services
Deceuninck Ltd	Rap Industries Ltd
Decision Graphics UK Ltd	Denis Rawlins Ltd
Decra Roof Systems (UK) Ltd	Rawson Carpets Ltd
Dedicated Microcomputers Ltd	Recreational Surfaces
Denver Maintenance Ltd	Reflex Ltd
Derwent Macdee Ltd	Reflex-Rol UK
Design 5 Ltd	Reggiani Ltd Lighting
Desking Systems Ltd	REHAU Ltd
Dexion	Reliance Security Group Ltd
Diane Baily Associates	Reliance Water Controls Ltd
Dick De Leeuw	Relocation Information Service
Digitron Instrumentation Ltd	Remsdaq Limited
Dirickx (UK) Ltd	Renovations (UK) Ltd
Display Signs	Rentacrate
Divi UK Ltd	Rentokil Cleaning Services Ltd
Dixon Wallcoverings	Responce Facilities Ltd
Dorma Door Controls Ltd	Restorex Ltd

Dorma Entrance Systems Ltd	Rettig Heating
Dor-o-Matic Ltd	Ring Gard (UK) Ltd
Dorothea Ltd	Rochford Landscape
Double Parking Ltd	Rockwool Ltd
Douglas Industrial Ltd	Rollalong Limited
Doy Webster Williams (CAD) Limited	Ronacrete Ltd
Draeger Ltd	Roset (UK) Ltd
Drake & Scull Technical Services Ltd	Rotowash UK Ltd
Drawn Metal Ltd	Roughton
Drinkmaster Ltd	Revacabin
Duncan Whitehouse Ltd	Rubbermaid Ltd
Duplas Domes Limited	Russell Leisure Products
Durable Berkeley Ltd	Rust Consulting Ltd
Duration Windows	Ryden Property Consultants
Dyer/Brown & Associates Ltd	Esco Carpet Tiles (UK) Ltd
Dymon Ltd	ETCetera UK Ltd
Nicholas Dyson Furniture Ltd	Euro Car Parks Ltd
EBS Office Interiors	Euro Personnel Services
ECD Energy & Environment Ltd	Euroelectric (UK) Ltd
ECS Lighting Controls Ltd	Eurotek Office Furniture Ltd
EFG Business Furniture	Evans Lifts Ltd
EMC Advertising Gifts	Excalibur Designs Ltd
EMS Bank Intruder & Fire Systems	Excellence Plc

ESE	Excitech Computers Ltd
E-Squared Ltd	Executone Europe Ltd
EX-OR Limited	Existalite Ltd
Easi-Fall Ltd	Express Lift Co Ltd
East Birmingham College	FDS Advanced Systems
Eastwood Park Training and Conference Centre	FEC Consultants Ltd
Eaton-Williams Services Ltd	FGT Lighting
Ebac Zephyr Ltd	Fm2
Eclipse Group Ltd	Faac (UK) Ltd
ECM Partnership	Faber Blinds Ltd
Eco Clear Ltd	Facilities Management Solution
Ecoair UK	Facilities Management UK
Ecopanel	Facilities Support Services Ltd
Ecophon Pilkington Ltd	Facility Consultants Ltd
Ecospace Ltd	Energy Auditing Agency Ltd
Eden Brown Recruitment Ltd	Energy Systems Trade Association
EFG Business Furniture (UK) Ltd	Engineering Appliances
Elcomponent Ltd	Englander Ltd
Electric Fans & Controls Ltd	Enham
Electrical Testers Ltd	En-Tout-Cas Plc
Electro Automation Ltd	Envirolog Measurement Ltd
Electrolux Bruynzeel Ltd	Environmental Detection Surveys

Electrolux Leisure Appliances

Environmental Monitoring Services

Electronic Control Systems Ltd

Envopak Group Ltd

Electrosonic Ltd

Envoplan

Electrotech Controls Design Services

Equation Communications Ltd

Elementer Lighting Limited

Era Security Products

Elga Environmental

Ergonomic Workstations Ltd

Elliott Group Ltd

Elwell Buildings Ltd

Elsy & Gibbons Ltd

Emos Information Systems Ltd

End Design Ltd

Fastrack Flooring Ltd